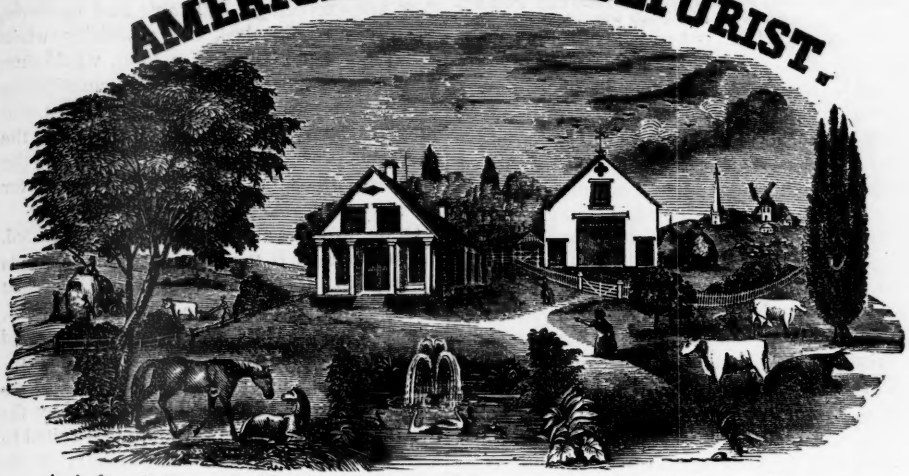
AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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CONTENTS OF JULY NUMBER.

CARROTS AND PARSNIPS—SUBSTITUTES FOR POTATOES, AS FIELD CROPS.

CARROTS for light, and parsnips for heavy soils, are excellent substitutes for potatoes, where the land is deeply worked, rich, and finely pulverised. They are doubly advantageous, in affording a most excellent food for every variety of farm stock, and avoiding the risk consequent upon the tendency of potatoes to disease, within the last few seasons. There are few crops more certain than those of both carrots and parsnips; indeed, we scarcely know the instance of loss to either, from enemy or disease. Both are readily sown by a machine, which plants rapidly and economically, and with much more precision and accuracy than can be done by hand. There is a great saving to the farmer, also, over potatoes, in the expense of seed, for while 10 or 15 bushels of good seed potatoes, necessary for planting an acre, frequently costs a dollar per bushel, the expense for the seed of either the parsnip or carrot, for an equal planting, will seldom exceed as many shillings. The cultivation may be performed with the cultivator, harrow, and light double-moldboard plow, with the aid of some small weeding, while the plants are young, which can be done exclusively by children or females. As the planting should be always in drills, the lifting or harvesting is most readily done by running a small plow close to the roots and throwing the earth aside, when the long tap roots are easily removed by hand, or a pronged hook lately invented for this purpose.

Another important advantage may be mentioned. The carrot and parsnip are not only highly nutritious, but the former is a light, digestible food for all animals, and especially for the horse, which it benefits beyond an equal quantity of oats when fed in moderate quantity once a-day. There is a peculiar principle contained in it, in comparatively large proportions, which not only promotes the rapid digestion of its own substance, but greatly and most favorably stimulates the digestive organs in their action on all other food that may be taken into the stomach when daily fed with carrots. The effect of this peculiar principle, which has received the name of *pectin*, is not confined to its action when fed raw, either to the horse or pig, or the ruminating animals; but seems to be equally efficacious when prepared by boiling and steaming, and fed to the human race. Besides the healthfulness thereby secured, there is great economy in the use of carrots in large families, where potatoes and shillings are scarce; for though not always as highly relished as the potatoes, yet they are exceedingly palatable and *toothsome*, when properly cooked, and especially when nicely sliced and boiled in a light, wholesome soup. Their uses for pies, and as constituents of bread, puddings, &c., are well known and properly appreciated by the initiated in the gastronomic art, where they not only serve the purposes of food, but afford a real delicacy for the more pampered palate.

Of the varieties of carrots usually cultivated, the long orange is the best of the table kinds for its yield. It is also of fine grain and excellent flavor. Next to this is the large Altringham, which is prolific but rather coarse, yet a good table root. The early horn is of quick growth, and a choice esculent for cooking, but is of diminutive growth. The white Belgian is by far the greatest yielder, and therefore best suited to a field crop where stock feeding alone is the object. It is not fit for the table; and is inferior to any of the other varieties in its nutritive properties, bushel for bushel, but probably much exceeds them in its aggregate value, acre for acre. It has the further advantages of being more easily harvested, in consequence of much of the root growing above the surface; and its appropriating a larger proportion of its constituents from the atmosphere, than the other varieties, thereby lessening its draught on the fertilising matter existing in the soil.

We may mention as one of the advantages possessed by the parsnip, that, in addition to the large proportion of wholesome nutritive matters which it contains, and its general adaptation to the feeding of all stock, and more especially to milch cows and swine, it requires no harvesting in autumn, but is preserved more securely in the soil where grown, than elsewhere, when it is properly drained and not exposed to standing water on the surface. The parsnip is not, however, so well adapted for feeding to horses, as either the potato or carrot. Qualey attributes to its too free use by horses, epiphora, or weeping; and it has been asserted that it will, in some cases, produce blindness, an effect which is never assigned to its use, however profuse, when fed to swine or ruminating animals.

When the land has been properly prepared, the carrot affords one of the most certain and reliable crops. It is the experience of an English farmer, that, where they were grown for fourteen successive years on from five to ten acres, but two crops produced less than 500 bushels per acre, while the remaining twelve seasons, averaged from 500 to 1,200 bushels per

acre; and all these were grown on poor sands and gravels. We will add in conclusion, that on all such lands, the roller must be thoroughly used, to give sufficient compactness to the soil, to enable it to hold the fibres of the roots firmly and impart to them their requisite quota of nourishment.

If other root crops should be substituted for the potato, to the extent, at least, of providing succulent winter food for all the dumb things on the farm, the diminished quantity of potatoes planted, would tend materially to lessen their liability to disease. By more judicious selections of fields, more frequent change of crops, more careful choice of seed, and greater painstaking in planting, the fearful malady, so long and so fatally prevalent in the potato, may not only be greatly mitigated, but with the aid of science in discovering some of its causes and abettors, this substitution may hereafter lead to its effectual eradication.

PORK—BACON—HAM.—No. 4.

The difficulty of saving hams from decay or from fly blows is well known to consist principally in properly curing the knuckle, or superior extremity of the thigh bone; it will therefore be apparent that if such a difficulty exists in curing them, it must be greatly increased when the bulk of the ham remains attached to the side, or flitch. These operations being completed, the side is carried to another table, where the operator cuts off any straggling pieces of flesh, together with what may be considered superfluous on the shoulder. He is also provided with a sort of dull iron chisel, to which a cord is attached which passes over his neck, and with this chisel, he separates the scapula, or shoulder bone, from the muscles attached to it; this being completed, a small noose from another short cord, also placed over the neck of the operator, is now fastened to the narrow and joint end of the bone; in doing so, the workman has to bend his body, the cord being made short expressly for this purpose.

In resuming the upright position, he draws out the shoulder, or as it is commonly called, the blade bone; the fore arm, or knuckle, may be either left or taken out; it is usually left with the side; the last operation is sawing off the shank of the ham, which is done a few inches above the joint; the side is now fit for the curer. The rapidity with which all these operations is performed quite astonishes the spectator who has not previously seen a large establishment of this kind, several of which, in Ireland, slaughter from 800 to 1,000 large hogs per week during the season, namely, from October to April. The head is sometimes cured by separating the lower from the upper portion, the lower part forming what is called the "chap." The more usual way is to split the head into two lateral divisions and throw them into a strong pickle, the same as is used for forming pickled pork. The above-described mode is that usually adopted in the west of England, and also in those parts of Ireland where bacon is prepared for the London market in the west-of-England fashion. The York method differs from the west-of-England mode, in having the ham detached from the flitch, and also in not cutting out the griskin, leaving the whole of the ribs attached to the side, only separating the back bone, as previously described. The ham is cut either short or long, according to taste; if cut long, the whole of the pelvis, or haunch bone, is cut out in connection with the thigh bone and ham. The Westphalian ham is an instance of this method, and is the best mode for the seller, as he gets the price of ham for a large portion which would otherwise form a sort of offal, or make part of the flitch, and so only obtain the price of bacon. This form of ham is the worst for the consumer, as the lower end contains a great quantity of bone, and is only fit for boiling; it has also its disadvantages with the curer as it disfigures the flitch very much, leaving a long narrow slip at the ham end, which can only be used for melting down. On the whole, therefore, the method of cutting the ham short is the best; this is done by sawing the pelvis in about the middle and cutting the ham in a circular manner from that point. It is not customary with small pigs to cut any part of the ribs; but with large ones, it is requisite to cut a portion out of the fore part, and also to draw out the blade bone as described in the west-of-England mode. With small pigs, such as the improved Essex, this may be omitted when they are only from nine to twelve months old, and having been previously well fed, as the curing of bacon depends greatly on the latter-named circumstances; this, together with the fact that small bacon and hams usually obtain the best price, other matters, as quality of meat, &c., being equal, is a strong argument in favor of the smaller description of pigs in reference to the larger breeds; also, as here shown, the whole of the carcass can be converted into marketable ham and bacon, without any deduction for offal of much consequence.

I omitted to state that prior to preparing the

carcass for bacon, the whole of the omentum, or caul, ought to be taken out; this is, however, so obvious, that the omission is not very material. It is by no means an uncommon practice with bacon curers to render down the caul with the lard; if the caul is taken out carefully and well washed, this may be done without detriment to the lard. Lard is rendered down by being first cut up into pieces, and placed in a boiler along with a little water, which as it melts, is strained off and poured into bladders. Great attention is requisite in rendering lard in order to maintain the proper degree of heat, yet, at the same time, to prevent burning; bladdering lard also requires some dexterity. When all the lard is strained off, the remainder is subjected to pressure in a press appropriated to the purpose, by which means very little fat is left; what is left in the press is called "greaves," and is sold in cakes to feed dogs, in some instances to feed hogs; also to the Prussian-blue makers. Although the term "offal" has been several times used, the meat in several instances, though so called, is in fact the finest part of the pig; for instance, the griskin in Ireland, is sold together with the piece cut out of the breast and the haunch bone and meat appended thereto, are all called offal, notwithstanding which term, the griskin is undoubtedly the finest part of the pig.—*Jour. Royal Ag. Soc.*

MEADOW LANDS IN NORTH CAROLINA.

There has been very little attention paid to meadows in this part of the state; and for the want of proper management, those who commenced them have made poor progress. From what has fallen under my observation, I think they may be greatly improved by cultivating herd's grass, or red top.

Two of my neighbors prepared meadow land several years ago, and sowed herd's grass or red top seed, which, for a few years, produced fine crops; but the third year, they began to fail, and as is usual in these parts, instead of trying to improve them, they were neglected. Hogs have been permitted to run upon them and root them up, and from appearance, they were entirely ruined; but, to their surprise, the next year, as far as they were rooted up by the hogs, the grass crop was improved at least 50 per cent. above any former crop.

Another of my neighbors prepared a piece of land favorable for the purpose, and sowed it with herd's grass seed, which did well a few years, and then began to decline; and finally, it was plowed up and tended in corn, and every effort made to destroy the grass. In the fall, it was sowed in wheat, and at harvest, the herd's grass, in many places, entirely overrun the wheat. It was again tended in corn, and sowed in oats, and the herd's grass again got the better of the oat crop. In the fall of 1849, it was again put in wheat, but the grass again got the better of it, and a good crop was made of the greater part of it. The owner is now encouraged to turn it into a meadow again.

From these observations, I am convinced that, at least, in this part of the country, cultivation of meadows is necessary, and would be beneficial.

George Luther.

Martha's Vineyard, N. C., March, 1851.

UTILITY OF THE STUDY OF ENTOMOLOGY TO THE FARMER.

Among the insect tribes are found the greatest benefactors, and the most dreaded enemies of man; and hence arises a necessity of studying their habits and instincts and the circumstances that favor or retard their increase, and their partialities and antipathies, that we may be able to derive from them the greatest benefit, or receive the least injury. It is not from individuals of the insect races that we have to hope or fear, but from the congregated myriads that are developed in seasons and localities favorable to their existence, and which are often associated by instinct, into communities bearing in their general relations an analogy to human society, that they become an efficient agency of good or evil to the husbandman. Hence, the importance of studying them in their individual organisation and associated habits, that we may learn the laws that govern their increase and distribution. Different species have an important relation to each other, and this leads to the necessity of studying the characters of those more minute and seemingly unimportant classes, that on a superficial examination would appear to have the least possible connection with human affairs.

Viewed in this light, entomology assumes an importance second to none of the sciences; and, (as the zeal of the votaries sufficiently proves,) it is not wanting in those attractive features that render study agreeable. The poet and the moralist have ever found in insect life, sufficient materials to adorn and instruct. But our present purpose will not allow us to pursue the beautiful analogies that might be traced, and the lessons that might be taught through these agencies. The purposes of science are higher and nobler than those of tracing curious and fanciful analogies. An investigation into the struc-

ture and characteristic peculiarities of the various genera and species, the changes that attend their progressive development, their habits, food, and the time, season, and manner of depositing their ova, with the circumstances that favor or retard their appearance, the classification and system of naming them, that they may be designated with precision and recognised with facility by others, and an inquiry into the extent to which they may be controlled by human agencies, constitute the proper objects of the student's attention. In no other manner can we obtain a knowledge of insects that may be available to the farmer and the gardener, the fruit culturist and the florist, the ship builder and the housekeeper, who severally feel the effects of their ravages, and appreciate the value of preventives against them.

With the exception of the honey bee and the silk worm, the whole of the insect races are usually regarded by the farmer, as his enemies; yet, if carefully observed, many species would be found his benefactors. In sultry seasons and hot climates, they act as scavengers to remove decaying and putrescent animal matter that would otherwise act as an exciting cause of pestilence and promote the spread of desease. It is difficult to penetrate the thickets of tropical swamps and marshes from the swarms of venomous insects that assail the adventurer; and even in temperate climates, the myriads of mosquitoes that haunt the borders of swamps and streams, render a sojourn so unpleasant that there is less danger of incurring disease from exposure to the pestilential miasms peculiar to these localities. The physician, the painter, and the dyer are severally indebted to the insect tribes, for the blistering fly, lac, cochineal, and nut galls, each in their kind, indispensable; and we must also place to the credit of insects, the first ideas they have furnished of many valuable discoveries in the arts. The aeronaut and the diver have each their prototype in the spider, and if the fiction of the ancients is to be credited, man learned to spin from the worm; to build from the bee, and to husband his resources in summer to supply his wants in winter, from the ant.

Steaming Potatoes.—The secret of steaming potatoes is very little understood, and rarely carried into full effect, although it is indespensable to the nutritious development of the vegetable. The whole mystery consists in suffering the steam to escape, and at the same time keeping the potatoes hot.

POULTRY RAISING.

Raising poultry is not a profitable business, at least, on Long Island, where we have a ready market for our grain at our doors. Every chicken from the time it is out of the shell until it is fit for market, consumes about 25 cents' worth of food, (more than we generally get for them,) besides the time spent in taking care of them, to say nothing of the loss of the hen. From six to ten weeks, poultry kept for their eggs is profitable, if well attended to, and not in too large numbers together.

Many farmers take little or no care of their poultry during the winter months, leaving them to glean whatever they can find about the barn yard, and of course, they get very few eggs. I get quite or nearly as much profit from my poultry in winter, as I do in summer; but I do not get so many eggs; yet, they bring from six to eight cents more per dozen.

I have tried several large kinds of fowls, but they would not answer for laying. Small birds are best for eggs. The best layers are a cross with the black-Poland top knots and the Creoles. Although the Polands are called everlasting layers, they do not lay so well, nor so early as a cross with some small breeds. The Dominiques, for instance, is a very good sort to cross with.

In the March number, (1850,) of the Agriculturist, Mr. Miner tells us that the Polands will mix by sight. I have had them more or less for 20 years, and have never known them to mix, unless they run with other fowls. I believe pure breeds are scarcely to be had. They are frequently seen in the New-York Market, for sale, with yellow legs. Those are not pure.

In order for hens to lay in winter, they must have some kinds of meat as an offset for the myriads of insects that they get in summer. Scraps and offal of most any kind are good. Also, soft-shelled clams, which can be procured almost any time throughout the winter around our bays and harbors. I boil them and jam them up, shell and all. The hens eat them very greedily. Spring pullets, if kept well, will commence laying in November and continue through the winter. H. B. Rogers.

Huntington, Long Island, Feb., 1851.

To Soften Hard Water.—A few ounces of soda will soften a hundred gallons of the hardest water. For washing, it possesses a marked superiority over pot or pearl ash, giving a delicate whiteness to the linen, without the slightest injury.—*Ex.*

SHORTHORN BULL SPLENDOR.

By omission for the want of space, the following remarks in regard to this fine bull, were not made up to accompany his portrait, in our May number, page 152. These remarks were written by Mr. D. H. Albertson, of Lima, Livingston County, N. Y.

Steers of Splendor's get, when broke, make good workers, are active, and full of mettle, yet very kind and gentle; usually attain large size, and are of fine proportion, and always sell for large prices. I have known several pair sold for $200, when four years old. I sold a lot of steers last fall, two years old, for $50 per head.

So far as my knowledge extends, cows of Splendor's get prove excellent milkers, and are much sought after. I now own one, which has given 70 pounds of milk per day; and this, I think, she would do for weeks together, in good feed. His get, when three years old, (often at two,) fatten remarkably well, making more pounds of meat, and of course, paying better for food consumed, than any other stock in this section.

It is a well-settled opinion, among the breeders of good stock, that Splendor is the best getter ever introduced into this section of western New York; which opinion is fully proved, by the avidity with which his get are sought after, and the prices which they command.

CULTIVATION OF FLAX.

For the past five years great attention has been given in Ireland and some parts of England, to an improved cultivation of flax, which it would be well for the farmers of the United States to imitate. The value of flax and its seed might be made at the north and west, what cotton is at the south. It is said that Great Britain imports flax to the value of $30,000,000 annually; 120.000 tons come to London alone. It is computed that it would require upwards of 400,000 acres of good land to raise this quantity of flax.

In a letter from Mr. Blow, published in Hunt's Merchants' Magazine, we make the following extract relative to flaxseed, and linseed oil:—

"In the consumption and sales of linseed oil, here, to the amount of $5,000 or 200,000 gallons, it would require, say, 100,000 bushels of good flax seed, which at $1.50 per bushel, (fifteen cents below the present market rates,) amounts to $150,000. The manufacturer could pay the price and afford oil at 80 cents per gallon, and the farmer could receive a large return for his labor and capital, as I will presently show you, and not the least of all, the money be retained at home—the simple fact is, that at present there is little or no seed in the country, and we are forced to import oil from all directions, reducing the usually heavy stocks abroad, until the value of linseed oil is so appreciated that it cannot be laid down here for less than $1.05 per gallon, and scarce at this; whilst a further drain on the reduced stocks of England and Germany must run up this important article to an unprecedented price. But let us continue with the calculation. We are forced to buy 200,000 gallons of linseed oil to fill up the requirement of the trade—$1.05, say $210,000

Deduct the cost of same to consumers and dealers of like amount, made from Illinois and Missouri seed, at the high price of $1.50 per bushel for seed, 200,000 galons, at 80 cents, $160,000

Loss to consumers and dealers by importing, instead of raising at home, $50,000

Again, as you doubtles know, and as numerous good farmers have told me, flax seed can be raised and laid down in St. Louis, wagoned 75 miles, at a cost of 80 cents per bushel to the producer. Then haul in 100,000 bushels, and sell it for $150,000

Deduct cost of the same laid down, $80,000

There is left the enormous profit to the farmer of $70,000

which is certainly a large margin to work on.

Of the manufacture of linen and its value, Mr. O. S. Leavitt thus speaks in the New-York Tribune:—

"That we are on the eve of a great revolution in commerce and manufactures, growing out of a substitution of linen for cotton, there can be no queston. Raw cotton is now worth 14 a 15 cents per pound, while linen filler can be procured for less than one third this price, especially in those districts where flax is grown for the seed only, the lint being thrown away as worthless, or at least not worth the expense and trouble of preparing it for market, in the usual way. In those districts, flax can be produced in the unrotted state—the very condition for producing fine linen at the least cost—for about two cents per pound. Then, by the use of machinery somewhat similar to that which I am now using successfully with unrotted hemp, in the manufacture of Kyanised cordage, flax can be broken out for less than two cents per pound Then, by process of machinery, it can be refin

ed and rendered white and soft, capable of being spun into the finest yarns, for less than two cents more, being then in the condition which you so aptly term 'flax cotton.' This can be spun for about the sum required for cotton, thus reducing the price of linen yarns far below that of cotton. From this time forward, as you proceed in the manufacture of fabrics, the expense is about equal, the recent improvements in power looms for linen, having entirely removed all the difficulties which were experienced in this branch of manufacture some time ago, and from the great purity and whiteness of the linen fabric by the new process, the bleaching is rendered quite as simple and cheap a process as with cotton. By the new process, we are enabled to produce finer quality than heretofore. It was common in Ireland, when hemp was low and cotton high, to use the American dew-rotted hemp as a substitute for flax, but it could not be run to finer numbers—rarely finer than 30s. It can, however, by the new process, be easily run as fine as 100 leas to the pound. I have produced yarn much finer, in a small way, from hemp, both rotted and unrotted, though the latter is preferred.

"I observed the London press delighted with the prospect of English independence of American cotton growers. It is very true that England may not be obliged much longer to import raw cotton from the United States, but she will hardly like, in the place of it, to import manufactured goods, as she must do ere long. Flax cannot be transported far, in the unrotted state, in the straw, and farmers will not readily establish factories upon their plantations, for the purpose of producing 'flax cotton' for exportation. They will cut it, take off the seed, (which pays for the crop,) and haul it a few miles to a flax mill or linen factory, where they will sell it at a moderate price. When a manufacturer once begins to manufacture flax, if he is wise he will go through with it, and turn it off in the shape of either yarns or fabrics. Growing flax for the seed, alone, is considered, in many parts of the western states, a profitable branch of husbandry. What the farmer gets, then, for the straw or lint, now thrown away, he considers so much clear gain. It is proposed in Ireland to pay twelve pounds sterling, ($60,) per acre for flax straw, leaving the farmer the seed; and who shall say that we cannot compete successfully with Ireland in manufacturing linen, when we can purchase quite as good, and quite as much flax, for less than one quarter of the money?"

POULTRY RAISING No. 5.

THE species of fowls known as Chittagongs, Shanghaes, Great Malays, etc., are without doubt fowls that will weigh, when mature, from 15 to 20 pounds per pair, (male and female,) and their flesh may be equal to our common varieties, in some cases, but oftener not so tender and delicate. Now, in order to have those fowls as profitable as our common varieties, they should produce double the number of eggs annually, or at least, double the weight of eggs that the ordinary breeds produce; but instead of such a result, we get but about two thirds the number, and the same weight produced by the common fowl. Dr. Bennett says in his treatise on poultry, (page 30,) of the Chittagong breed—and what is applicable to this breed will properly apply to all large breeds, in regard to their productive powers: "They do not lay as many eggs in a year as smaller hens, but they lay as many pounds as most of the best breeds." A pair of any species or breed of the large fowls, will consume double the quantity of food, or in the ratio of their weight, that a pair of common fowls consume, and only produce the same weight in eggs. From this fact, it follows that we can raise two pair of common fowls for the same cost of one pair of large ones; and yet, double the weight of eggs, and more than double the number of eggs in a year, than such large breeds will produce.

Now, it puzzles me to ascertain where the profit is in large breeds over small ones. If one never sells any eggs, a pound of large ones is worth as much for family use as a pound of small ones; yet, but very few persons, comparatively, use all the eggs that their fowls produce, and in the market, an egg is an egg, and large ones will not generally command a higher price than small ones. It appears to me that two pairs of round, plump, fat Dominique fowls, or any other good breed, when dressed, would be preferable to one pair of Chittagongs or Shanghaes of double their weight; that is, for the table. If this is a fact, and I firmly believe it is so, will some one be so good as to inform the public, through this medium, where the advantage or profit lies in large breeds over small ones? We want information on this point, and if some gentlemen who can tell a good story, and pocket $5 for a pair of such breed, will come out and show from good, positive, incontrovertible authority that they are more profitable than small ones, he will be a public benefactor. It is my belief that most of the owners of large breeds at the present day, feel inter-

ested in keeping up the excitement about them. Hardly a man can be found who does not expect to have some for sale. Even if he does not admit it, he thinks of it, for where is the man who has paid $5 for a pair who would not naturally have an eye to a few V's for his own trouble and expense, to say nothing of a regular speculator in the trade. T. B. MINER.

Clinton, Oneida Co., N. Y.

GUANO—HOW USED IN VIRGINIA, MARYLAND, AND DELAWARE.

EXPERIMENTS by some of the best planters in these states, during the last three or four years, have demonstrated that the most economical application of guano is at the rate of 200 pounds per acre, sown broadcast, upon very poor land prepared for wheat, and plowed in, *no matter how deep*, upon which sow the wheat and harrow or plow in without disturbing the guano. In no case, fail to sow clover upon the wheat, the time for which varies from November to May, in the opinion of different persons, for the benefit derived from the guano to the clover and through that to the land, is of more value than the wheat, and the average increase of that is at least, five bushels to the 100 pounds of guano used.

The great fertilising principles of guano are phosphate of lime and ammonia, which is very volatile and should not be exposed to the action of rain and sun upon the surface of the ground, unless mixed with plaster, or some other absorbing substance. SOLON.

CULTIVATION OF RICE IN CEYLON.

THERE are no less than eleven kinds of paddy, (rice in the husk,) cultivated in the low grounds some of them requiring four months to come to maturity, and these are generally sown in March; others three months, and they are sown in June. One kind must remain in the ground as long as five months; while another, reared in very low grounds, comes to maturity in two. The growth depends so entirely upon irrigation, that the seasons for sowing, which vary according to the district and kinds to be sown, must be chosen when the streams are full, or when a sufficient supply of moisture during the period of growth is insured by a continuance of rain, either in the locality itself or in the heights where the streams rise.

The lands used for this lowland cultivation can be sown from season to season; but the hill paddy, of which there are also many kinds, will only grow on a soil which has for many years been undisturbed; and partly from its being so exhausting a crop, partly from the poorness of the land, each crop requires newly-cleared land, and is never sown oftener than once a-year. Any deficiency of requisite moisture produces a total failure of the crops, and no artificial manure is ever made use of, the natural soil being assisted only by the ashes of the wood fires. It has been reckoned that, in the cultivation of hill paddy, the labor of two men will produce sufficient for the maintainance of three persons; whereas in the low grounds, the labor of one man will support three, and often more.—*Quarterly Journal of Agriculture.*

LEMMON GRASS.—Of the native productions of Ceylon, the most remarkable, and one we believe to be found nowhere else, is the lemon grass, (*Andropogon schœnanthus,*) which may be seen covering almost all the Kandian hills, and is the best possible pasture for cattle—at least as long as it is young. This species of grass is very hard, and grows to the height of seven feet, and sometimes higher, and has a strong but extremely pleasant acid taste. It derives its name from having, when crushed, an odor like that of the lemon, so strong that after a time it becomes quite heavy and sickening, although grateful and refreshing at first. It covers the hills in patches—those, at least, that are not overgrown with jungle and underwood—and is to be found nowhere but in the Kandian district.—*Journal of Agriculture.*

THE USE OF THE FIELD ROLLER IN CULTIVATION.—We have often adverted to the great advantages of the roller on sandy soils. But while we deem its use almost indispensable to good crops on sandy, porous soils, we must claim for it a great advantage on almost any soil. After the ground has been thoroughly upturned and pulverised, it requires to be partially compacted again to render it suitable to hold the roots of plants firmly and give them their fullest support, and most rapid growth. Many farmers prefer to let their plowed fields rest some days after preparing them to receive the crop, before sowing, so as to allow of the earth settling well together. It is preferable, however, first to sow the seed, then settle the earth firmly around it by the use of the most approved kind of field rollers.

SINGULAR.—A cow belonging to Robert R. Briggs, of South Adams, Mass., brought forth a fine red calf about two weeks ago. In five days after, the same cow brought forth another calf, of a cream color.

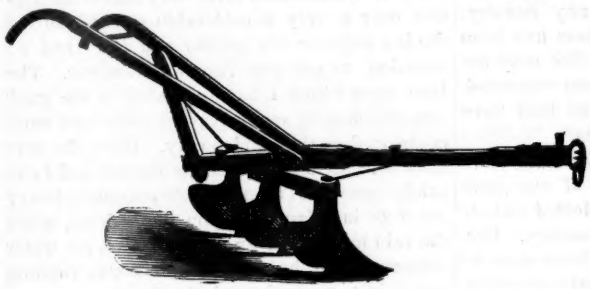
THE THREE-SHARE PLOW.

This implement is frequently used by thorough farmers, for plowing in their wheat, oats, and other small grains, when sown broadcast. There is a great advantage in its use for this purpose.

1. It requires going over the ground but once instead of several times, as with the harrow; for when properly done, every seed is effectually covered by the first operation.

2. It buries the seed deeper than is done by the harrow, which is advantageous for grain, as the roots thereby have a strong foothold, and the stem a firm support. This is a great preventive of winter-killing, so destructive in certain sections and on peculiar soils.

3. It leaves the ground in slight ridges, thus roughening the surface, which is a decided advantage to the growing crop. If to be followed by grass, without subsequent plowing, and the



Three-Share Plow.—Fig. 45.

ridges have not become levelled before the time for cutting the grass, as the rains and frosts will be very likely to do, a roller will speedily remedy the difficulty.

4. Rust, and perhaps smut, may often be prevented by having a series of uninterrupted parallel openings across the entire field, so as to admit the free circulation of air, as is the case where the wheat is plowed in with the three-share plow, or drilled or dibbled in with the seed sower.

A VIRGINIA PLANTATION.

Thou shalt not covet, is a commandment which we should not break; yet, if any one can visit Sabine Hall, and not disobey that injunction, he is a more perfect Christian than I can pretend to be. It is one of those noble old mansions which are to be found scattered all over the tide-water region of Virginia, marking an age of wealth and refinement, that in some measure has faded away. For the ancient families have forsaken the old halls, and in many cases, house and household are known no longer in the land that was once graced by their presence.

Sabine Hall still retains its pristine grandeur, and is owned and occupied by as true a nobleman as ever welcomed a guest beneath the hospitable roof of a Virginia gentleman of the good old time. Let the traveller who happens to enjoy the pleasure of Captain Mayer's company upon the steamer Mary Washington, from Baltimore to Fredericksburg, (a very pleasant route it is too, and good boat and very accommodating officers,) ask him to point out this prominent landmark, a couple of miles below Tappahannock, on the opposite side of the river. It stands upon an elevated site, some two miles from the shore, overlooking a broad tract of rich bottom land, upon which great fields of wheat and corn are spread out in bounteous profusion. Covering the slope of the hill, immediately in front, is a terraced garden of fruits and flowers, and grassy banks; and a little lower down, a full supply of esculents for the table. Here the fig ripens its luscious sweetness, and the peach gives its subacid goodness in great perfection. The carriage approach is from the rear, or rather the landward front, through a park of noble old trees, green grass, and hedges. There is one thing about this entrance which I wonder is not more common. A neat lodge stands by the outer gate, the residence of one of the house servants, and some of the children are always on hand to open and close it when passed by resident or stranger. The house itself is not extraordinary in its dimensions, nor grandeur of appearance; but it is sufficiently roomy, and is one of that class of old-time dwellings whose walls are as substantial as the hospitality which welcomes the stranger within.

Through the centre, runs a broad hall, big enough to parade a militia company; upon the right, are two parlors large enough to entertain another; upon the left, a dining room and sitting room, and between them a heavy wainscotted and balustered, deep-worn staircase, and a passage out upon the gallery of the wing, leading to the store rooms and kitchen. Of course, there is a gallery, or colonnade, upon the river front, for what finished southern house ever lacked this ornamental appendage?

The present proprietor, colonel Robert W. Carter, is a descendant of one of the oldest and most wealthy families in the state, and almost the only one upon the northern neck of Virginia, where the name was once great among the great names of that region.

Like many other countries which depend upon a single staple crop, this sunk into a state of unproductiveness, after its staple, tobacco, failed to remunerate the cultivator. Lands which once gave forth golden harvests, returned to a state of wooded wildness. A hundred years works wondrous changes. Old walls of extensive mansions, seen through avenues of old trees; fine old churches, dilapidated, though yet strong in their old age, speak of what this region was, ere Washington was born, for here was his birthplace. Till within a few years, but a little of the country besides the alluvial bottoms of the Potomac or Rappahannock, such as those of Colonel Carter, were considered worth cultivating. Now, a new era is dawning upon this long-neglected, poverty-stricken portion of Virginia. Guano, lime, plaster, bone dust, and other fertilisers have been imported; better plows, and other implements used; and if ever that adage was applicable to any country, it is to this, for truly, the wilderness has been made to blossom like the rose. Not only the desert places in the forest have been renovated, but such lands as those at Sabine Hall have been made to double their products.

Taking all things into consideration, there are few more desirable sections of our great country than this one, so long neglected and almost despised on account of its poverty. Certainly, there are few places that have more of the characteristics desirable to make a comfortable home, than can be found upon the fine plantation and noble old hall of the place I have endeavored to draw such a picture of as would interest my readers. SOLON ROBINSON.

THOROUGH DRAINAGE.

WE hope soon to have the pleasure of recording some of the favorable effects of subsoil drainage, in our own neighborhood, as a few of our intelligent friends on Staten Island, have, at our suggestion, imported a tile machine for the purpose of forming the materials for this important improvement. The undertaking is in the hands of spirited and wealthy persons, whose hearts as well as purses, are in the enterprise; and we are certain to hear favorable results from their efforts. Strange as it may seem, we have hitherto not had a single instance of thorough drainage in the neighborhood of this metropolis of half a world, where choice land is worth from $150 to $300 per acre for cultivation alone, for farming and horticultural purposes. Under-drainage, if thoroughly done, will cost from $20 to $40, and if in excessively stiff clay, perhaps $50 to $75 per acre. But we are satisfied that no land requiring drainage will be benefitted less than 25 per cent., while the very stiff clays will be much more than doubled in value, for all tillage purposes.

What then is the result? Taking the minimum price of land for agricultural purposes, and the minimum improvement of it by drainage, we shall have an increase of their intrinsic worth by this operation, of $37.50 per acre, while in the more valuable and stiffest clay, we may have an increase of more than $150. This last amount of improvement, we have no doubt will be fully realised in some of the lands now surrounding the city of New York.

Of the wonderful effects produced by underdrainage, we quote from a late Agricultural Gazette, (English paper,) the experience of one of its intelligent correspondents, Mr. J. M. Paine. He says:

I have drained land of the very stiffest description over a very considerable extent, (during the last eight or ten years,) and have had no occasion to use any furrows whatever. The land upon which I have operated is the *gault clay*, which is by many degrees stiffer and more compact than the London clay. Here, for acre after acre there is not a single furrow, and I can safely assert that after the late unusually heavy rains of last January upon these fields, when the rain had ceased an hour or two, no water whatever could be seen, though it was running away in torrents through the drains.

Many years ago, I experimented on this description of land on a small scale; and I then found that the drains ought not to be more than 15 feet apart in order to be thoroughly efficient. This gave me confidence as to the method to be adopted in my future proceedings, though I must confess I was half deterred by the prospective cost; it was enormous, equal to half the fee simple of the original value of the ground. But I persevered, and I am happy to add that I have had no reason to repent of the outlay, as I have been amply repaid in the subsequently exuberant fertility of the soil thus treated. In this land, the drains are from four to five feet deep and from twelve to fifteen feet apart. The cost was £16 per acre. And here I again repeat, that, after the heaviest rains or melted snow, the surface of the land is in appearance as dry as if it rested on a sand bed.

Only a few years ago, what is commonly termed thorough draining was a most unpalatable necessity, obtruded upon land owners, and was for a long time resisted; but it is now almost universally acknowledged to be the foun-

dation of good farming; and they only have acted wisely who have obeyed its requirements. But, on the other hand, it may be stated, for the comfort of the farmer in these disastrous times, that this very stiff land, after drainage, with proper cultivation and manuring, is capable of procuring enormous crops, both of grain and roots; this I can testify to from experience.

I will give another instance or two, from farms not in my occupation. The first is a small farm, of about 40 acres, which I drained last year. This land was unusually wet and although it was thrown up in high narrow furrows of about eight feet wide, it was impassable for horses, excepting in the driest weather, when the ground baked up as hard as a brick. The seasons for sowing were frequently lost, as the land could not be got ready in time. Now the drains in this farm were put in at four and four and a half feet in depth, and at distances varying from 15 to 30 feet, such as from the character of the soil I deemed sufficient, the surface soil not being of one uniform texture. After the draining was completed, I recommended the tenant to throw down all the high ridges, and lay the ground perfectly flat. He followed my advice, and the land has ever since been thoroughly dry, without indicating the necessity of retaining any furrows. I walked over this farm during the wettest part of January; there was no water at all to be seen on the surface, and the ground under foot had become perfectly sound; though previous to the draining, after similar heavy rains, I have often seen, on the inclined surfaces of the fields, gullies washed out two and three feet deep, and the flats of the fields were so rotten that a person could not walk on them without sinking over his shoes at every step. The subsoil of this farm is also the gault clay.

I will only mention one more instance, taken from the land of a friend and neighbor of mine. The land he has drained rests upon the London clay. Previously it was a very poor wet pasture ground, producing little besides rushes and moss. He could not obtain a tenant for it at 2*s.* 6*d.* an acre. He therefore determined to drain it, and occupy it himself. His drains are placed four feet deep, and thirty feet apart. The remedy has proved effectual, the land being as good now as the rest of his farm, and he could readily let it for 30*s.* per acre.

Here, again, we have an illustration of the non-necessity of open furrows derived from an experiment over some 50 or 60 acres, the whole of which now lies perfectly flat.

It is obviously impossible to lay down any uniform set of rules as to the proper distances at which drains should be placed so as to make them thoroughly efficient; these must be regulated in each case, by the texture and consistency of the soil; but I do most unhesitatimgly maintain, if the land be truly underdrained, that is, deeply enough and thickly enough, that open furrows to carry off surface water are more than useless. To the scientific farmer, it would be mere waste time to descant upon the advantages accruing from water percolating through the soil instead of running over it; and more particularly since so much light has been thrown upon the *rationale* of the benefits arising from the percolation of water, by the individual discoveries resulting from the investigations of Professor Way and Mr. Thompson on the manuring absorptive power of clay in our agricultural soils. I ought, perhaps, to add that I invariably trench or subsoil immediately after draining.

This afternoon, I walked to my farm to see the effects of a continuous, heavy 12 hours' rain upon the land. I consider this a capital opportunity for testing the accuracy of my statement relative to the absence of all surface water, upon my thickly and deeply-drained land; for before the storm of to-day during the past week, the rains have been so heavy as to saturate the soil with water, and our low grounds have been constantly flooded; so I thought if ever water was to be seen on the surface, I should find it there to day. It was pouring with rain when I started from home, but there was a temporary clearing up of the weather about five minutes before I reached this part of my farm, in company with my bailiff. We walked over every part of the stiffest gault-clay field that I possess, containing about 12 acres; and I can most confidently assert that there was no water whatever on the surface, and there was no symptom of the slightest rill having run upon the surface, during the heaviest period of the rain. In fact, every drop of water percolated through the soil into the deep drains below, from whence copious streams were issuing like little rivers. Moreover, it so happened that in this field there were 20 or 30 holes dug about it in different parts, each two feet deep, and they were all free from water, with the exception of two or three on a quarter of an acre, in one corner of the field, where the drains were placed 18 feet apart, instead of 12 feet, as in all other parts of the field—here there was about two inches of water at the bottom of the holes. This field is

in hops; the ground has not yet been dug, but the hop hills are cut; thus leaving, at every six feet, little circular basins, six inches deep, most excellent receptacles, therefore, for the retention of surface water, if there had been any. Afterwards, indeed, on returning home, on lands not drained, I found these little basins filled to the brim with water.

THE ANALYSIS OF SOILS—ITS HIGH VALUE TO THE INTELLIGENT FARMER.

Formerly, the attempt to examine the soil of any particular field, with the view to ascertain the proportions of the various elements necessary to support vegetation which it contained, would have been considered a downright absurdity. But, with the introduction of steam engines, magnetic telegraphs, and the thousand-and-one improvements of the present age, which are made to contribute directly, and to an incredible extent, in the perfection of every art, and the economy of the processes by which it is accomplished, the farmer has, at length, come forward to the man of science, and asked his aid in furtherance of their ancient and honorable craft. They find—the most intelligent of them at least—that there is something besides mere chance which presides over their fields and crops, and that brains applied to the soil are capital manure, a most excellent stimulus to production. They consequently have sought for the materials entering into any particular crop they wish to produce; next they have ascertained how many, and in what condition these elements are to be found in the field to be tilled; then, by comparison, they know what is necessary to add, to give an abundant nourishment for the crops proposed to be grown upon the land. This is so plain and common-sense-like, that a school boy just commencing his addition and subtraction, and even before he reached his multiplication, would be able to understand and readily admit its propriety. Yet, strange to say, a large portion of the farmers of this, and every other country, do not yet comprehend it. Many, however, who have long cherished a desire to thus examine their fields, have been incapable from their own want of chemical knowledge, nor have they known where to procure the information from others.

We are happy to be able to direct the attention of such to our intelligent correspondent, Dr. Antisell, who is fully competent to make the analyses of all soils.

The advantages resulting to the farmer from this knowledge, are, that he may know with entire certainty, the particular kinds of manure required to be furnished to the soil in addition to what it now contains, for the crop to be raised. The field may have an abundance of lime, potash, and soda, yet be deficient in sulphuric and phosphoric acids. For the former, it is necessary to apply sulphate of lime (gypsum); for the latter, bone dust only is necessary. Is soda wanting, salt is to be added, barilla or sea weed. If potash is the deficient ingredient, then ashes, leached or unleached, are to be applied; the last containing much the greater proportion of potash. But in addition to potash, ashes are full of vegeto-mineral matter—it is all vegetable remains, the skeletons, (broken up and reduced to powder,) of the ancient monarchs of the forest, or it may be its youngest saplings; but, from whatever source derived, they are pure vegetable remains, and are best suited to the reproduction of new forms of vegetable life. Thus, besides yielding potash, which is held in large proportions in ashes, and being easily soluble, is most readily parted with, they furnish soda, magnesia, phosphoric and sulphuric acids, lime in large proportion, the silicates, &c., so that, in applying them for manure, we give a more comprehensive variety to the land than can be had in any other form, unless it be in the unburned remains of what once constituted organic life. If the land be well supplied with mineral manures, vegetable matter only may be required, and this may be found in peat, chip manure, or green crops, to be plowed in.

Sometimes the soil may be abundantly supplied with all the elements for plants, yet be unsuited to their growth, from too great moisture, as in low lands; too impervious to rain and air, as in very stiff clay; too loose and light to hold the moisture and the roots of plants. For all of these mechanical deficiencies, not the chemist, but the skillful laborer is required. You must drain the first; drain the second, if possible, besides loosening the texture by deep subsoil plowing, and applying coarse vegetable manures. For the third, you must add lime, ashes, peat, green crops, or other vegetable manures, and especially must you apply the roller, thoroughly to compact and settle the particles of the soil together, and around the rootlets of the plant, thus enabling the soil both to retain the water, (by the capillary attraction of its particles, which do not act at greater distances,) to give firm support to the roots and to supply by their immediate contact with them, their soluble food to the spongioles of the plants.

Again, some crops take a great deal more of

certain substances from the soil than others, and it is essential to know at what rate we are exhausting each of the materials of the soil, in order to return the exhausted portions, and at all times maintain a full supply. Thus the clovers require gypsum; wheat and the white grains, potatoes, and turnips, bone dust; grass requires bone dust and ashes, &c. This is not all these crops demand; they need more or less of the ingredients contained in every one of the manures, but they consume them in varying proportions, more of one kind and less of another.

There are certain manures of universal application; such as ashes among the mineral substances, and farmyard manure and guano, the latter combining both the animal and mineral, and the former, animal, vegetable, and mineral. Guano and the muck heap may be taken for the use of every soil and every crop, with absolute certainty that we cannot go amiss. They are, therefore, the safest of all manures for the use of the ignorant and unskillful. To the more initiated, however, some simple mineral substance may be found, on analysing the soil, to be all that is necessary to add, as carbonate of lime, gypsum, salt, &c. They can thus furnish the deficient ingredients at the cost of a few shillings per acre instead of as many dollars, which the ignoramus must expend for supplying an assortment from which the vegetables can extract the one or more they need.

For the purpose of rendering this necessary aid to the farmer, we have secured the services of Dr. Antisell, who may be consulted at his office, No. 63 Franklin street, or addressed through the mail. By sending him specimens of soil, a report on them can be immediately returned, with full explanations as to the proper mode of treatment. Thus, not only the ingredients of the soil can be given, but those required for successive crops may be indicated, as well as the most economical sources from which they can be procured.

We commence this new feature of our periodical with an analysis of soils received from Dr. Blake, for which, and Dr. Antisell's analyses, accompanied with remarks and advice, see the following columns.

A Cheap and Excellent Manure For Gooseberries.—A French nurseryman says that exhausted tan bark spread on the surface, around the roots of gooseberry bushes, is an effectual remedy for caterpillars. A cart load of bark is sufficient for a large garden.

PRACTICAL AND SCIENTIFIC FARMING—ANALYSES OF SOILS.

I herewith send you two samples of soil taken from one of my fields, to which was applied, a year or two since, about 80 bushels of lime to the acre.

After analysing these soils, I wish you to inform me in what chemical constituents the land is deficient, and what manures or fertilisers, with the quantity of each, per acre, will be necessary to be added to render it suitable for the following crops, namely, Indian corn, oats, wheat, and clover.

Respectfully yours,
John L. Blake, Orange, N. J.

To Dr. Thos. Antisell, New York.

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The following is a copy of the analyses of the soil and subsoil of the above samples as made in the laboratory of Dr. Antisell, which we publish for the benefit of our readers; and we recommend others who are in need of similar information, to adopt the same praiseworthy plan herein offered by Dr. Blake.—Eds.

	Surface soil.	*Subsoil.*
Organic vegetable matter,	4.56	0.83
Fine sand and silicates of lime and iron,	86.20	86.00
Alumina,	2.27	3.20
Per-oxide of iron,	0.26	0.43
Oxide of manganese,	—	0.06
Lime,	0.44	0.80
Magnesia,	0.21	0.45
Potassa,	0.01	0.04
Soda,	0.03	0.06
Chlorine,	0.04	0.08
Sulphuric acid,	0.11	0.05
Phosphoric acid,	—	trace
Carbonic acid,	0.06	—
Loss,	0.01	—
Moisture,	5.70	4.00
	100.00	100.00

The amount of organic vegetable matter in the soil is in moderate quantity, not sufficient for grain crops. It is in great part composed of undecomposed roots, and which, when separated, leaves a very small portion of vegetable matter in a rotted condition, fit for the immediate use of plants. It therefore requires that more vegetable matter should be added.

The quantity of lime is much too small either for the crops to be raised or for acting upon the rootlets not yet decomposed into mould. Thirty bushels of caustic lime will bring the amount of that substance in an acre of ground three inches deep, over one per cent. This will be the smallest quantity that should be added, and it will need repeating for every crop of wheat. It would then, perhaps, be better to add it in the compost form. In any case, it must be added previous to, and independent of, the following manures. There is sufficient sulphuric

acid present in the soil as soluble sulphates, to supply the wants of the rotation.

The soil contains much too small a quantity of the alkalies, potash and soda, but only a trace of phosphoric acid. These, also, will require to be added. Contrasting the subsoil with the surface soil, we find the former to contain an increased amount of those substances, excepting the sulphates; and thence, it is capable of adding these mineral matters to the surface soil. Whether the crops will obtain what they require from the subsoil, will depend, however, upon the facility of the roots to penetrate the earth, and upon the flow of water through the subsoil, to bring into solution these matters. As these contingencies cannot be depended on, it would be unsafe to trust to this source alone, or in great part.

The rotation, consisting of Indian corn, oats, wheat, and clover, will require, besides other substances not necessary to be added, such as silica, alumina, and oxide of iron, large amounts of alkalies and earths. If we suppose a crop of 68 bushels to be raised—50 bushels of oats, 25 bushels of wheat, and two tons of clover per acre, there will be removed off the soil by these four crops, the following weight in pounds of these important mineral substances:—

	Pounds.
Potash,	100.35
Soda,	29.00
Lime,	104.60
Magnesia,	33.00
Sulphuric acid,	54. 65
Phosphoric acid,	36.63
Chlorine,	8.10
	366.33

The corn draws the largest portion of this amount, being equal to 140 pounds, composed of sulphuric and phosphoric acids, lime, and potash. Therefore, it would require per acre of

	Pounds.
Unleached wood ashes,	200
Common salt,	20
Gypsum,	60
Bone dust,	120
	400

This should be incorporated with seven cubic yards of farmyard manure; 100 pounds of guano might be substituted for the bone dust with advantage.

For the wheat and oats, the following substances might be added in a compost, per acre:—

	Pounds.
Wood ashes,	100
Nitrate of soda,	50
Crude Epsom salts,	40
	190

This will supply the deficiency for both crops, having in view the residual matters left in the soil which the corn had not removed.

The most efficient manure for clover, scattered broadcast, per acre, would be of

	Pounds.
Gypsum,	150
Crude sulphate of soda,	75
	225

THOMAS ANTISELL, M. D.,
Analytic Chemist, 63 Franklin st., N. Y.
New York, May 21st, 1851.

The fee for analysing soils and giving advice, will vary from $5 to $10. Please to address Dr. Antisell, as above, for all further information on this subject.—EDS.

REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

The Tea Plant.—Dr. Smith proves conclusively, (to himself,) that tea can, and will be grown in this country cheaper than in China. It will be hard to convince an old Chinaman like me, that tea will become a profitable crop in *cottondom*; or that corn-fed-hog-and-hommony-eating negroes, will ever become the patient, industrious, nice workmen that the Celestials are. If the climate will grow a good-flavored tea, and if the leaves can be gathered by machinery, dried by lightning, packed by steam, sold by telegraph, and fortunes made and spent in a space of time shorter than a Mandarin's cue, the business will suit the genius of the American people, and not otherwise. However, this is an age of wonders, and no telling what may become fashionable.

Southern Cattle, should have been entitled Texas Cattle. Owner of 3,000 cattle, and yet without milk or butter! Yes, and you might have added, without all the other comforts and conveniences of life; and destitute of a home possessing any of the attributes calculated to make life worth enduring. Such is generally the case with men who rely upon these overgrown herds of cattle, rather than upon the cultivation of a fertile soil. This writer thinks Texas will be one of the greatest stock-raising countries in the world. Then it will be the poorest state in the Union; the poor granite hills of New England will have to send them butter and cheese, to feed the few that ever enjoy such luxuries.

Cultivation of Corn.—One acre manured at a cost of $11—product 136 bushels of sound corn, and two and a quarter loads of fodder! I have known the two left-hand figures made without

any manure, but *some folks* are not satisfied with that.

Ruta-Baga Turnips.—One thousand and fifteen bushels from one acre! This shows what may be done, if farmers will only try. But let me inquire whether this manuring of Mr. Hallock's was not more expensive than an application of guano would have been? I hope no one will mind your hint about the *book*, it is only *book farming*, when experiments fail.

California Farming.—Deliver me from it. Why, suppose just as your potatoes are in blossom, some fellow discovers a yellow speck in your potato patch. Away goes your crop, root and branch, *prospecting* for gold without any prospect left for potatoes.

Pork—Bacon—Ham.—Another excellent article, and the information is none the worse for coming from England. Although a hoggish country, we are not quite so well up to bristles as we might be, notwithstanding we sometimes get up our own, when other pigs elevate theirs at us. I advise readers to re-peruse this article, and then, while they take a last fond look at the slab-sided, long-snouted brutes in their own yard, make a solemn resolution that old friends must part, without a grunt.

Swamp Draining of Southern Lands.—There is another sort of draining of southern lands, which will swamp the whole of the owners, unless they dam the drain pretty soon. It is a drain of all the fertility of the soil by a system of cropping which will soon compel them to take to the swamp, or some other tall timber, to make cotton. I am glad to see your South-Carolina friend is so successful in his experiments at draining. I have a sort of vague notion that some lands as far north as the blue-stocking state, might be drained to advantage. Suppose some of your bog-meadow gentlemen try your hand.

Draining Tiles.—Information worth a dozen dough machines. It would be worth still more if these great improvers of the soil were more, generally used. There is a vast amount of land in America, that only needs draining to become very productive, which is now nearly worthless.

Good and Bad Effects of Salt on Animals.—Another long title. Salting stock is shorter and better. Who is Medicus? On which side is he arguing—for or against the use of salt as food for cattle? Your correspondents took the position that it was not a necessary of life with healthy animals, not against its usefulness as a medicine. [How will they be kept in health without it?—Eds.]

How to Make Home Happy.—"Always be cheerful." This is the substance of that chapter; yet, it is an untrue axiom, or I do not understand the definition of the words, "happy, lucky, fortunate, successful." Now, I have seen a few *homes*, where luck, fortune, and success never entered; yet the inmates filled every definition of the word cheerful, as given by Noah Webster. Let industry, energy, and constant perseverance determine to make home comfortable, by adding conveniences and embellishments, and the dwellers therein will have a happy home.

What Seed will You Plant?—Five lines of words instead of these seven—"As ye sow, so shall ye reap."

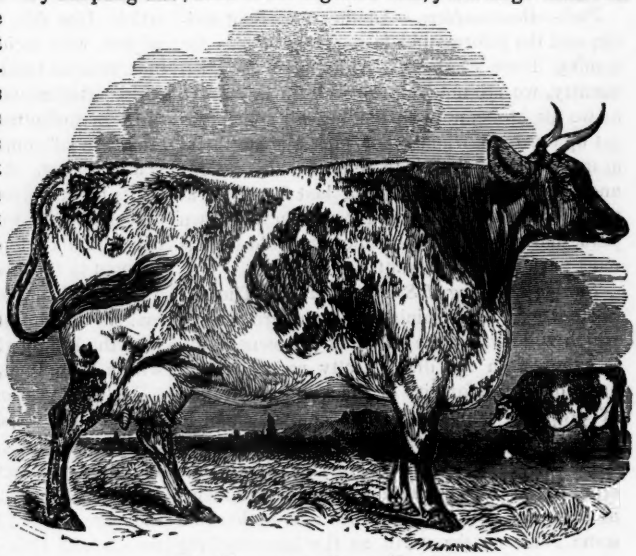
Plows and Plowing.—It is refreshing to find an article like this, plainly written upon a plain subject, with lucid explanations of lucid drawings, that all lucid minds can elucidate to their entire satisfaction. I am glad to hear that some plow manufacturers have at length learned a modicum of common sense about placing the beams higher. It has been one of the greatest faults for years, to be found with cast-iron plows, that the beams were so low that whenever used in stubble or foul land, they were a constant torment to the plowman, and almost useless as a plow. Every effort that I have made to urge makers to adopt the improvement, has been met with the killing reply, "How would a plow look with a beam twenty inches high?"

Ladies' Department.—This page is occupied with a very sensible article about English women, but it is out of place—it has no business in this department. My girls say there is an implied contract, if not a written one, by which they are entitled to have this page filled every month with little bijouterie of household economy—recipes for cookery, washing, dyeing, coloring, gardening, and a thousand et ceteras, any one of which is worth more than the whole cost of the paper. Do you think they are particularly interested in an essay that holds up English women as superior to American ones? It is all very well for a bachelor or an editor, far removed from the influence of black eyes and blue, to have an article like this hung up in his bed room, to remind him continually what fine women there are just over the other side of the pond, but it is sadly out of place in ths ladies' room. It is a breach of contract of which I hope the Agriculturist will not be guilty again. Be assured, sir, if you lose influence in the "Ladies' Department," you may as well stop publishing. Trespassing upon their rights, let me tell you, is about the surest way to get up a

mutiny in the old ship. Let me tell you, Mr. Editor, when you have sailed as many years as I have under the same flag, you will learn to trim every sail to catch the favoring breezes from woman's smile. Better give them two pages than rob them of one. REVIEWER.

THE YORKSHIRE COW.

THE accompanying cut of a Yorkshire cow, from Youatt & Martin's work on cattle, recently published by C. M. Saxton, of New York, is an excellent illustration of what we have often endeavored to inculcate in our pages, of the great advantages to the dairy farmer of a few crosses from the male of a milking family of shorthorns, on good native milking cows. By adopting this principle in breeding, the farmer may calculate almost to a moral certainty on obtaining nine good milkers out of every ten heifer calves properly reared; he also gets an animal that matures at least one year earlier than common cattle; and one, that after being dried off, will fatten more readily and profitably than a native.



THE YORKSHIRE COW.—FIG. 46.

Youatt thus describes this cow: "A milch cow good for the pail as long as wanted, and then quickly got into marketable condition, should have a long and rather small head; a large-headed cow will seldom fatten or yield much milk. The eye should be bright, yet peculiarly placid and quiet in expression; the chaps thin, and the horns small. The neck should not be so thin as common opinion has given to the milch cow. It may be thin towards the head; but it must soon begin to thicken, and especially when it approaches the shoulder. The dewlap should be small; the breast, if not so wide as in some that have an unusual disposition to fatten, yet very far from being narrow, and it should project before the legs; the chine, to a certain degree fleshy, and even inclining to fullness; the girth behind the shoulder should be deeper than it is usually found in the shorthorn; the ribs should spread out wide, so as to give as round a form as possible to the carcass, and each should project further than the preceding one to the very loins, giving, if after all the milch cow must be a little wider below than above, yet as much breadth as can possibly be afforded to the more valuable parts. She should be well formed across the hips and on the rump, and with greater length there than the milker generally possesses, or if a little too short, not heavy. If she stands a little long on the legs, it must not be too long. The thighs somewhat thin, with a slight tendency to crookedness in the hock, or being sickly-hammed behind; the tail thick at the upper part, but tapering below; and she should have a mellow hide, and little coarse hair. Common opinion has given to her large milk veins; and although the milk vein has nothing to do with the udder, but conveys the blood from the fore part of the chest and sides to the inguinal vein, yet a large milk vein certainly indicates a strongly-developed vascular system—one favorable to secretion generally, and to that of the milk among the rest.

"The last essential in a milch cow is the udder, rather large in proportion to the size of the animal, but not too large. It must be sufficiently capacious to contain the proper quantity of milk, but not too bulky, lest it should thicken and become loaded with fat. The skin of the udder should be thin, and free from lumps in every part of it. The teats should be of moderate size; at equal distances from each other every way; and of equal size from the udder to nearly the end, where they should run to a kind of point. When they are too large near the udder, they permit the milk to flow down too freely from the bag, and lodge in them; and when

they are too broad at the extremity, the orifice is often so large that the cow cannot retain her milk after the bag begins to be full and heavy. The udder should be of nearly equal size before and behind; or, if there be any difference, it should be broader and fuller before than behind.

"The quantity of milk given by some of these cows is very great. It is by no means uncommon for them, in the beginning of the summer, to yield 30 quarts a day; there are rare instances of there having given 36 quarts, but the average may be estimated at 22 to 24 quarts."

VALUABLE IMPROVEMENT FOR FASTENING CARRIAGE-HOUSE DOORS.

Mr. Joseph Sayre, a young farmer of Orange county, New York, is entitled to the credit of this invention; one which entirely obviates all trouble of putting in and taking out a cross bar or upright post to hold the double doors.

Carriage-Door Fastening.—Fig. 47.

The improvement consists of a triangular frame, the upright of which should be in length equal to the width of one door, and the cap about the same length, with two braces. This frame is hinged, one end to the cap of the doors, and the other upon a beam, at right angles within the room, so that when in place, the upright occupies the position of the upper half of a post, to which the doors are hooked or fastened in any other way. From the inner corner of one door, a cord runs to a pulley in the centre of the cap, and along that to another pulley near the end, and then to the lower end of the upright; now, as the door opens, the cord draws the frame up to the cap, entirely out of the way; then throw the inner brace off the hook, and it holds the door open. As the door closes, the frame comes back to its place, and the doors are made fast, just as they would be to a post.

FINE APPLES.

We had the pleasure of a call, last May, from Mr. Albert Chapman, of Middlbury, Vt., who brought us specimens of some very fine apples raised by him; all of which were of a more spicy flavor and solid flesh of their kinds, than those raised in the richer soils of the west. Among these, were the "Baldwin," which at present bears the highest price in market, and is among the most profitable apples grown; the "Roxbury russet," also highly profitable; the "sweet russet," which we devoured with such gusto in the spring of the year, when a school boy, on holiday visits to our grandfather's farm in Old Hampshire, Massachusetts. It is unaccountable to us why this delicious apple is not more cultivated in this vicinity. We have heard it objected that the skin was tough and the flesh shrivelly; nothing can be more untrue of these samples of Mr. Chapman's. We know of no other sweet winter apple that keeps so well. We have often eaten them as late as July, more luscious to our taste than sugar plums.

Absorbing Power of Peat and Charcoal.—Dr. Anderson, chemist to the Highland Agricultural Society of Scotland, has lately tried several experiments with peat, both raw and reduced to charcoal. He finds that the charcoal is a powerful deodoriser, (remover of smell,) but not an absorber of ammonia. The greatest amount of ammonia he found to have been taken up by filtering putrid urine through it, was $\frac{1}{10}$ of one per cent. The peat itself, when dried at 212° F., was found to absorb 2 per cent. of ammonia, while still dry to the touch. After exposure to the air in a thin layer, for 15 days, it retained 1¼ per cent. This shows the invaluable properties of the raw article; and if the results of Dr. Anderson are correct, we must give up the use of peat charcoal, as an absorbent of ammonia.

An Infallible Remedy for Rot in Potatoes.—So say several old practical farmers in this vicinity. "When you drop the seed, put one pint of slacked lime on it, in each hill, and then cover."

We beg leave to claim a patent right on the above, as we have repeatedly published it in the Agriculturist, and very few have yet practised it. We suppose the reason was it got into a *book*, and from that moment became *valueless*.

To Kill Lice on Poultry.—Boil onions several hours, thicken the water with meal, and feed to the poultry.

Horticultural Department.

BY L. F. ALLEN.

PRELIMINARY REMARKS.

Every man who lives in the country, whether a farmer, a professional man, or an occasional resident for the summer months, should be more or less of a horticulturist. To the farmer, horticulture is the fine art of his vocation, besides being, if properly managed, the most profitable branch of his cultivation; and beyond all these, there is no part of his estate, and no portion of his time that yields so much luxury to his table, and so much enjoyment to his family and friends, as the bounties gathered from the fruit, the vegetable and the flower garden. A well-studied economy directs him to have a large and well-supplied kitchen garden. Household comforts, and the well-timed and healthful luxury of good fruits, in which he may most properly indulge, stimulate his pomological efforts; while the innocent pleasures and contemplations to be gathered from the care and admiration of those beautiful "day stars," and "floral apostles" of Horace Smith, which adorn his flower garden, will add a grace and charm to his female household, which all other productions of his farm, without them, would not yield.

The professional man, if he be a man of business in his line, requires hours of relaxation from the oftimes severe labors in which he is engaged. What recreation so delightful, so peaceful, so perfectly restoring to the overworked energies of the mind and body, as the garden or the orchard? Lord Bacon, the most profound moral philosopher of his age; John Milton, whose name is to perish only with his language; Sir William Temple, the most accomplished diplomatist of England's most difficult period, all sought their purest relaxations among their fruit trees, and amid flower borders. These names are but illustrious selections from the long catalogue of great and good men, to say nothing of the Hannah Moores, the Jane Porters, and others equally celebrated among the gentler sex, who have sought their choicest pleasures in the garden which their own hands carefully tended. Such names show conclusively that horticultural pursuits—and they are but corroborations of the sentiment of still earlier and equally illustrious examples—are among the most excellent and refined that can be sought for our recreation, as well as for our employment.

It is a gratifying incident that among the wonderful physical progress—the moral progress we lay aside for the present—which the civilised world has for the past forty years achieved, that, prominent among other labors, horticulture has received its due share of attention. The intelligent and well-directed labors of scientific men have introduced many choice varieties, both of fruits and flowers, into notice, within the present century, and improved methods of propagation and treatment have developed qualities and features in both, to which our fathers were strangers. Obedient, also, to the grand organic law of man's fallen state, that "by the sweat of his brow" he shall eat his bread, with our progress in developing the choicer fruits, have the encroachments of their enemies, disease, and blight, and insects followed in their train, taxing our ingenuity and patience in an equal degree, that their production and proper cultivation have done. These last, equally with the production of the fruits themselves, demand the attention of cultivators; and as we have given so prominent a position to this branch of American agriculture, we shall devote several pages of our periodical hereafter, to the pomological and horticultural department, and by thus doing, make our pages more interesting if possible, to our suburban friends of the cities and large towns of the country.

BARKBOUND TREES.

Some over-wise people have an idea that when a tree gets mossy and barkbound—the latter but another term for the want of growth, and weakness, consequent upon neglected cultivation—it is only necessary to slit the bark up and down the stem with a jacknife, and it will at once spread out and grow. This is sheer nonsense. Dig about and cultivate the roots, and the bark will take care of itself, with a scraping off of the moss, and a washing of the stem with ley or soap suds, or chamber slops, which last is quite as good. The increased flow of the sap, induced by a liberal feeding of the roots, will do its own bursting of the "hidebound" bark, which is simply its enfeebled condition as a consequence of its poverty of root. No one thinks of turning out a bony, half-starved calf in the spring, into the clover field with the skin on its sides all split through with a knife in order to add to its growth. And this last proposition is quite as sensible and philosophical as the other. Nature takes care of itself in these particulars. Sap in plenty is what the blood is to animals. Its vigorous flow reaches every part of its composition, and gives to each its proper play and function. We can show

frequent instances of a decrepit shrivelled branch, by the throwing open and manuring of the roots and a thorough pruning of the whole top, increasing from an inch to two inches diameter in a single season; and without assistance as it grew, bursting and throwing off its old contracted bark as freely as the growth of a vigorous asparagus shoot would develope itself during a warm shower in May. Such nostrums are only the invention of the head to excuse the laziness of the hands.

CULTIVATION OF FRUIT TREES.

Nothing more rapidly developes the growth of trees and shrubs—ornamental indeed, as well as the fruit bearing—than early and thorough cultivation in the growing season. In grass grounds, and lawns particularly, where trees are planted, but a feeble and imperfect growth will succeed the close binding of grass about their roots. The earth should be thoroughly dug for several feet around the stem, and then mulched to the depth of three to six inches, with coarse litter, to keep the drying sun from the roots, and prevent the escape of the volatile gases which most promote their energies. Around larger trees and in less choice grounds, a thorough plowing of four, six, or eight feet distance from the stem, is a more expeditious and equally effective practice. In a growing young orchard of our own, consisting of near a thousand apple trees, in a luxuriant meadow, where forking around the trees and mulching has answered our purpose heretofore, we have this spring applied the plow, throwing the first furrow, say six inches deep, against the bole of the tree, commencing the cutting with the plow at six feet distance as we approached it, going through the entire row of trees in the orchard, and then returning on the other side, and so continuing until four broad furrows were turned, each one towards the tree, thus making a square, averaging eight feet, around the stem of each tree, of thoroughly-broken ground. This plowing leaves the surface in a rough state, (the rougher the better,) for receiving the rains and air to the roots, and answers all the purposes of plowing the entire field, when the trees are young. As they increase in size and extend their roots, the width of plowing may be increased, and the fertility of the soil, that might be otherwise expended in a growing crop of grain or roots, all given to the tree, which is a gross feeder. Neither is there any waste in this mode of cultivation. Less grass is obtained from the quantity of soil thus broken, we admit; but the increased growth of the tree and the superior quality of the fruit amply compensate such loss; and a parsimonious treatment of the tree will be sure to react upon the stinted cultivation or feeding it may get at the hands of its cultivator. If this proposed mode of treatment be neglected until July even, it will then be of service, as trees often make a vigorous second growth from stimulating causes, after the early or first growth of the season is apparently finished.

The decomposition of sods promotes the growth of trees equal to any other thing; and in exhausted soils, lime, spent ashes, phosphate of lime, (bone dust,) may be added to supply the inorganic substances necessary to produce the wood, leaf, and fruit. If these manures be thrown upon the surface of the broken sods thus turned up by the plow, they will find their way into the earth with the rains; and the frosts of the succeeding winter will give them all the incorporation into the soil which they require. In addition to this plowing, even if abundant mulching material be at hand, a forkful or two of coarse barn litter or straw may be thrown around the stem of the tree, thus adding to the permanent moisture by preventing its sudden evaporation by the sun. Our own experience has entirely convinced us that nothing will pay surer and readier than liberal cultivation of our fruits, if it be an object to grow them at all.

BARK LICE ON TREES.

Lice are wonderfully destructive to both the growth and health of trees; and the rapidity with which they increase when unmolested is astonishing. They are the color of the bark itself, and in shape and size like a flax seed. In frequent cases, they actually kill the branch they settle upon, and in young trees, often kill them altogether. The most effectual cure for them is to scrape the bark thoroughly, and give the tree or branch a washing of strong ley or soap suds, or what is the same thing, a strong solution of potash. This insect, or rather parasitic plant—for the dividing line between animal and vegetable life is so indistinct that it may be termed either—appears to be migratory in its habits, often attacking the thriftiest as well as the weakest trees, and its progress should be arrested before it ravages the whole orchard.

Bark Lice are devoured by millions by wrens, chick-a-dee-dees, and other similar birds.

Ladies' Department.

FOOD OF CHICKENS PREVIOUS TO WEANING.

As to the food of the young brood, let them have anything which is not absolutely poisonous. Sloppy matters are better avoided till the little things are old enough to eat a few grains of good wheat, of the best sample, which will then not be thrown away upon them. Meat and insect diet are always necessary; but raw vegetables chopped small, or Indian-meal dough, containing no salt, so grateful to young turkeys, are *caviare* to chickens. But whatever be the bill of fare, the meals must be given at short intervals; as much as they can swallow, as often as they can eat. The reader will please to remember that when she came into the world, all that was expected of her was to grow and be good natured. She had not to provide her frock out of her mother's milk, nor to elaborate pinafores from a basin of soaked biscuit; but for poor little chickens, the only known baby-linen warehouse, is situated in their own stomachs. And, with all their industry, they are only half clad, till flesh and blood stop growing for a while, and allow down and feathers to overtake them.

The period at which they are left to shift for themselves depends upon the disposition of the hen. Some will continue their attentions to their chicks till they are nearly full grown; others will cast them off much earlier. In the latter case, it may be as well to keep an eye upon them, for a few days, till they have established themselves as independent members of the gallinaceous community. For chickens, in this half-grown state, are at the most critical period of their lives. They are now much more liable to disease than when they were apparently tender little weaklings crowded under their mother's wings. It is just before arriving at this point of growth, that artificially-hatched chickens are so sure to fail, whether hot air, hot water, or sheepskin, be the substitute for the mother's care.—*American Poultry Yard.*

Pine Straw Braid.—The straw of the long-leaved pine has been found to possess superior qualities for braiding. It is prepared from green leaves, scalded and dried in the shade, similar to the preparation given to straw of grain, and possesses a great degree of toughness, and is very even and sufficiently long. The braid work we have seen was a delicate light-green color. Whether it will bleach white, we are not informed.

THE FUTURE WIVES OF AMERICA.

From Mrs. Ellis' lectures addressed to the young ladies of England, we give the following extract, which may be read with profit by every American female, mothers as well as daughters:—

"My pretty little dears, you are no more fit for matrimony than a pullet is to look after a family of fourteen chickens. The truth is, my dear girls, you want, generally speaking, more liberty and less fashionable restraint; more kitchen and less parlor; more leg exercise and less sofa; more making puddings and less piano; more frankness and less mock modesty; more breakfast and less bustle. I like the buxom, bright-eyed, rosy-cheeked, full-breasted, bouncing lass, who can darn stockings, make her own frocks, mend trousers, command a regiment of pots and kettles, milk the cows, feed the pigs, chop wood, and shoot a wild duck, as well as the duchess of Marlborough, or the queen of Spain; and be a lady withal in the drawing room. But as for your pining, wasp-waisted music-murdering, novel-devouring daughters of fashion and idleness, with your consumption-soled shoes, silk stockings, and calico shifts, you won't do for the future wives and mothers of England."

Indian Loaf.—To three pints of milk, add as much Indian meal as will make a thin batter, three eggs, two table-spoonfuls of butter, a tea-spoonful of saleratus, and salt to suit the taste. If not to be had, the loaf is good without the eggs.

The above recipe was given us by a fair daughter of Connecticut, and all we can say, is, if it be half equal to her gentle self, it must be good indeed.

Farmer's Rice Pudding.—No. 1.—Take two and a half ounces of rice, five and a half pints of milk, and four ounces of brown sugar; grate nutmeg over them and bake in a deep pan, three hours, stirring well about every 20 minutes, previous to baking.

No. 2.—To half an ounce of rice put a pint of milk, and sweeten to taste; otherwise, same as No. 1. Eat cold. A. D.

To Make Currant Jelly.—Take the juice of red currants and white sugar, in equal weights. Stir them gently and smoothly for three hours; put it into glasses, and in three days, they will concrete into a firm jelly.

REVIEW OF PROFESSOR JOHNSTON'S TRAVELS.

NOTES ON NORTH AMERICA—AGRICULTURAL, ECONOMICAL AND SOCIAL, by James F. W. Johnston, M. A., F. R. S. S. L. and E., F. G. S., C. S., &c., &c., &c.; 2 vols. William Blackwood & Sons, Edinburgh and London, 1851.—For Professor Johnston as an agricultural writer, we have always entertained a high respect, since our first perusal of his lectures on the subject of agriculture, published, we believe, in 1842. He has neither the genius or originality of Davy, nor Boussingault; but he possesses the next highest qualifications for usefulness after genius, in his habits of close observation, indefatigable industry and considerable research, to all of which, is happily superadded a cautious, discriminating judgment, in assigning due weight to the suggestions and theories of others.

Agricultural science is yet in its infancy. Its history hardly goes back for half a century. It was in the latter part of the eighteenth, where chemistry was in the seventeenth, and astronomy in the sixteenth centuries. Astrology represented the latter, and alchemy the former science, with nearly the same accuracy that the senseless aphorisms and old wive's fables did the true principles of agriculture, in the respective periods mentioned. A few gifted, and many intelligent minds, perceiving the intimate relations which chemistry and mineralogy bore to the great underlying elements of agriculture, immediately seized upon the splendid modern discoveries in those two far-pervading branches of utilitarian knowledge, and at once made them subservient to the development of agricultural principles.

The period that has since elapsed, has been too brief, and the aid rendered, altogether too feeble, to develope any comprehensive, well-defined, and properly-authenticated system of original principles, which are entitled to be ranked as a science. Much, it is true, might have been accomplished within this period, had the proper means and appliances been directed to this object; but agriculture, alas, had received a bad name. Branded, like its first great follower, Cain, not exactly with the stigma of crime, but what for its well-being, was perhaps worse, as inseparably associated with ignorance and stupidity, it met with no favor from astute professors nor learned pundits. Jeered by the witty, and scoffed at by the seeming wise, it has been neglected by patriots and statesmen; and amid the munificent academical, collegiate and other beneficiary endowments of legislators, this great and paramount interest has been deemed altogether unworthy of encouragement and support. And much as they were interested in its reputation and advancement, it has not even had the cordial nor generous aid of its own followers.

As a necessary consequence of all this neglect, agriculture has had to creep along slowly, and almost by stealth. Time and chance have almost alone befriended it. There was, therefore, no little credit due for the entire devotion of mental qualities like those possessed by Mr. Johnston, to this hitherto neglected, but greatly important and advancing interest. Though little calculated to elicit or strike out new ideas, to originate new sources of thought or new tracks of discovery, he has studiously followed up such as had been indicated by others, and by safe and cautious steps, has materially advanced us on our journey. We have carefully read what he had hitherto written, and have always admired the deliberate prudence with which every step has been taken. Indeed, we deem him one of the safest guides on the subject of agricultural principles, the present age affords.

We had hoped to find in him more than all this—a man of comprehensive research and liberality of sentiment. We had looked forward to the record of his tour in this country, with much pleasure from his previously shrewd and experienced observation. We have much to gratify us in these particulars, in the two volumes before us; yet, we must reluctantly confess, we find much, also, that has disappointed our anticipations, and diminished our respect for the ability of the author, in his character of tourist. The time spent in the United States was too short to do justice to his subject, and he has not that eagle glance, or rapid insight, that would enable him to do without it. Most of what he has recorded of material benefit to science is, the gleanings from our own accumulations, or they are not of material consequence. What is important is not new, and what is new is not important. We get more real information on agricultural subjects from a few pages of his previously published works than from both the present volumes. True, we did not anticipate a great deal of information; but there is the manner of the teacher about our author, and therefore we expect something worthy of being taught. There is a tone of superiority throughout, that leads us to expect important suggestions, and we are disappointed in not finding them. Lyell enjoyed a higher reputation as a man of science, and Lord Morpeth, (now Earl of Carlisle,) as a statesman and sagacious observer; yet, neither indulged in the occasional sneers, nor the general tone of depreciation adopted by Mr. Johnston. There is nothing but what he feels qualified to decide on, and his decisions are pronounced with the air of a master. But lest we may be thought to speak unadvisedly, we quote a few items.

In the second sentence, of the preface, we have that gross vulgarism "Britisher," under quotation, as if of every-day American use. We have often seen this phrase attributed to America by English writers. Yet, in travelling through our country within the last 30 years, for thousands of miles, in all directions, and to its remote borders, mixing in general conversation with all classes, we have not once heard the word used; and though reading much and from all sources of American writers, we have noticed it but once, and that in a scurrilous newspaper, and since the publication of the present volumes. If not of British coinage, it certainly has afforded an excellent currency for an extensive class of British writers—Marryatt, Fidler, Trollope & Co.

We must confess to a feeling of revulsion on meeting it at the very threshold of our author.

He met with "a preacher at the Episcopal church in Nova Scotia, with a nasal twang so perfect that he guessed he must be a Yankee, but was afterwards mortified to learn he was a native of New Brunswick." He need not have travelled out of England to find any reasonable number of nasal preachers, and sing-song orators. He subsequently confesses "that the general rudeness of the people, (Yankees,) which travellers speak of, is not perceptible in New England generally." No, nor elsewhere, generally, when the traveller manifests the first rudiments of a gentleman in his intercourse with them. We object to the discourtesy thrown upon the country by the *general reputation* alluded to, as if it had any other origin than in the conceit of vulgar hireling scribblers. We distrust either the intellect or feelings of a man who entertains the idea, that a nation which has given the exalted evidences of civilisation exhibited by this country, should be characterised by *general rudeness of manners.* Rude people and vulgar, we have, and in sufficient numbers, but they are not the mass; and their violence, whenever manifest, is generally aroused by aggressive qualities of the same stamp in those with whom they may come in contact.

We thank him for his hearty commendation of "the American Agriculturist and Albany Cultivator, those really well and usefully got up papers, filled with valuable information," and we hope our countrymen will not fail to appreciate them as highly.

Mr. Johnston is as great a stickler for the inviolability of language, as his almost namesake, the great English lexicographer himself, and deprecates all new meanings of words; yet he has several times used the word "wage" for wages, which we should have attributed to the carelessness of American compositors, had his volumes been printed on this side of the Atlantic, instead of an English press of scrupulous exactness, and directly under the eye of the author. We have an "unspringed farm wagon," p. 112 vol. 2; and "the northerns," for northerners sounds oddly to an American ear. What are "self-contained houses," we have not the skill to discover. The word "progressed" is used in its very worst form, on p. 439, vol. 2.

Mr. Johnston says, that at the New-York State Agricultural Show, held at Syracuse, in 1849, "nearly all the cows exhibited were Devons, and a beautiful Devon bull in the yard, had been bred in Canada." There were also a great many very beautiful bulls that were bred *out of Canada*; and as to the cows, we venture the guess, that not one in every twenty exhibited had a drop of, (visible,) Devon blood in her veins. This is of very little consequence, as are numerous other misstatements; but when one speaks *ex cathedra* he should speak *ex vero*—if authoritatively, then truly.

The fertility of the green sands of New Jersey, Mr. Johnston attributed to the presence of nodules of phosphate of lime, a conjecture we have long entertained as alone being capable of accounting for their great fertilising properties. He subsequently made an analysis which showed that *certain specimens contained from one to one and a half per cent. of phosphate*, sufficient to tell with wonderful effect on vegetable growth when associated as it always is, with an abundance of soluble potash.

We hope to find room hereafter, for some interesting remarks on the blue crystals of phosphate of iron in New Jersey, in p. 210, and his observations on *the social inferiority of the farming population of this country*, p. 471 of 2d vol. There are some valuable suggestions scattered through the work, such as the remarks on the comparative qualities of the different varieties of corn, pages 152, 154, not new, to be sure, but useful; "the nature of the rock over which the apples grow, as effecting the flavor of the cider made from them,"&c. We should say the *soil* in which they grow, which is frequently totally diverse from the underlying stratum. Here is a fact of value to scientific agriculture: "I have caused an analysis of the green shale from which the soil of Mr. Geddes' farm is formed, (in Onondaga Co., N. Y.,) and found it to contain 23 per cent. of carbonate of lime, and 13 per cent. of carbonate of magnesia," and yet, in this strongly calcareous soil, more lime, in the form of sulphate, or gypsum, (also to be met with in great abundance in the vicinity,) is found to be most highly efficacious. The red clays of New Jersey are also shown to be most beneficially influenced by plaster, when somewhat remote from the sea.

Many of our readers will be surprised to learn that "with all the fame and natural capabilities of this fine western region of New York, the Empire State does not, according to the best information I could obtain, produce wheat enough for its own inhabitants." His impression "that British farmers have little to fear from the wheat growers of North America, east of the head of Lake Ontario" fully accords with our own; and speaks trumpet-tongued to our farmers, that they must rely on something besides wheat, or any other agricultural products, to pay for the enormous quantities of British and other foreign manufactures we are now importing.

Mr. Johnston has very properly sifted our loose and exaggerated Patent-Office Reports, and shown the incredibility of many of their estimates and statements. But he has gone beyond any of these in his own understating of the aggregate packing business of the west, where a few emporia are made to represent the total of the states. He alludes to our recent discoveries of large quarries of phosphate of lime, both in New Jersey and Essex Co., New York. He thinks this substance may be advantageously exported to England, and if so, it is certainly most deserving of repeated and thorough trials at home.

There is a wholesome reproof administered to American grass sowers in the following: "The neglect of grass seeds may be considered as a fair indication of a low state of practical husbandry, in every country

which is blessed with a moderately moist and temperate climate. It is far too general in North America and the Provinces. Even among our home farmers, it is to be observed much more frequently than would be believed. Indeed, if we go a little out of the beaten track, we may find either in England or Scotland all the vices of American farming." So we should infer from the great number of indifferent farmers coming to us from those countries. We trust our southern brethren will take the opinion of an intelligent writer on the subject of sowing grass seed, for without the systematic introduction of a rotation of grass crops into their own husbandry, we believe the renovation of their worn-out lands to be hopeless.

Mr. Johnston ought to have supposed us a little less ignorant than he has, as he himself noticed the *fifth American* edition of his lectures. We believe there have been more copies of Liebig's and his own standard agricultural works published and read within the United States, than in England, Scotland, and Ireland together.

After considerable ingenious analysis of the taxes in this country, Mr. Johnston very rationally arrives at the conclusion, that "the *people* of the state of New York pay only one third of the taxes paid per head in Great Britain. But the *property* pays upwards of one fourth more. Thus the great contrast between the two sections of the Anglo-Saxon race on the opposite sides of the Atlantic is, on the one side the masses rule and property pays, and on the other property rules and the masses pay. The Paradise of the poor is on one side, that of the rich on the other." Since the poor are the great majority of the human race, we may well rest content, that we have a government and institutions that make our country a Paradise for them.

Mr. Johnston "was struck with the gravity and decorum with which the discussions in our New-York State Agricultural Society meetings were carried on;" but ascribes it "partly to the undisciplined and uncontrolled way in which children are brought up." *Lucus a non lucendo* is an adage that will aptly apply here. Much of the "great good that arises to the Union out of the numerous state legislatures is owing to the constant rivalry excited among them, which strives to make them outdo each other." We are thankful there is one motive efficient enough to make legislators do their duty, though we think a better, and one with equal or with greater truth might have been cited. The ignorant poor of England would have been thankful three or four years since, for as good a motive as the former, to induce parliament to vote for their public schools one half the amount it judged necessary for the repair of the queen's stables, but which, in the same breath, it denied the pecuniary ability of government to grant. There was nothing left for suffering humanity, after providing for the pampered horses of Victoria.

There is little inclination in our author to admit too much of merit in the enterprise or intelligence of "our transatlantic cousins," as he delights to call us. But maugre the frequent cuts and sly innuendos he indulges in towards us, like most others of that heterogeneous blood, which is variously compounded of ancient Briton, piratical Northmen, Saxon, Dane, and Norman, which in modern times is self-christened Anglo-Saxon, we believe he has a most pertinacious sneaking after his claim to a relationship. But true to that soi-disant *Anglo-Saxonship*, he says, "It is to Europe not America, therefore, that is due the rapid growth of the United States—European capital, European hands, and European energy. If all the native-born Americans were to sit down and fold their hands and go to sleep, the progress would scarcely be a whit the less rapid."

The difference in the opinion of Mr. Johnston is not less marked among the females of the country than the males. "I'll go over to Canada for a wife when I marry," quotes our author from a young American farmer, when he condescends to speak of the fair sex; "and when I come home at night she'll have a nice blazing fire *on*, and a clean kitchen, and a comfortable supper for me; but if I marry a New-Yorker it'll be, John, go down to the well for some water to make the tea; go bring some logs to put on the fire," &c. Degenerate daughters of equally degenerate heroines of the revolution, behold your picture by a foreign artist! "The native-born Americans" do nothing, and their wives do even less, and this is the way that within 50 years their oppressed population of 3,000,000, has grown to 20,000,000 of affluent people, enjoying more of the comforts, intelligence, and even the luxuries of life, than any other nation of equal population that has ever occupied any part of the globe.

An amend to the American stupidity and inefficiency implied by the foregoing, is unwittingly given in relating the comforts of a winter's ride of nearly 300 miles, between a late breakfast and early bed time, giving two full hours respite for dinner in Boston, in our glorious railway carriages, which are thus contrasted with an English first-class carriage. It is in them "where the half-starved passenger would be wrapping in cloaks and rugs, that the superior comfort of the long American carriage, which, though common to 50 or 60 passengers, yet carries a stove in the centre, becomes feelingly evident." The superior elegance and luxury of our best railway carriages vindicate themselves to all who have ever tried them.

Mr. Johnston, like Dickens and hosts of other English travellers, cannot abide the neat, freshly-painted houses and out buildings that make up one of our pretty New-England villages; for, notwithstanding the good humor he had acquired by his delicious railway jaunt, on his arrival at Portland, he rails at "the white houses and new towns disguised by fresh paint; they have all so much the air of having just been taken out of a bandbox or toy seller's shop, that one is apt to see in them more signs of rapid and immediate improvement than really exists." If our fastidious European voyagers would visit some of our older and more southern towns in the Old Dominion and elsewhere, such as Jamestown, &c., we will guarantee relief to their over sensitive vision, from staring paint and too vivid evi-

dences of present thrift. They may find, too, a few instances on the other side of the Atlantic.

Our author is so inveterate an Englishman, that he frequently winds himself and his propositions up together with such an impregnable mass of facts or statistics, with the furry side towards England and the Provinces, and the burrs always towards the United States, that he cannot extricate himself; and certainly, where his ingenuity fails, we may deem it a hopeless task to attempt his relief. Thus, notwithstanding "the greater purity of British blood in the Canadas, and the consequent greater amount of energy and intelligence, we are to look for in them," he tells us that the Rochester millers go to Toronto and pay a higher price for Canadian wheat than can be afforded by these more intelligent and enterprising British subjects, who have flouring mills "much superior to those of Rochester and Oswego, and can grind flour 15 per cent. cheaper." On this they pay freight over the lake, and 20 per cent. import duty, then grind and send it to Liverpool by a route more expensive than by the St. Lawrence, and yet beat the Canadians in their own English market, with a clean 35 per cent. against them, by the author's own admission, besides all the extras, amounting in the aggregate to 40 or 50 per cent.

Of the same character as the foregoing, is another fact adduced. "The 'stumpage' charged by the government in New Brunswick for cutting the timber from a square mile of land, is 10 shillings, while in the state of Maine adjoining, it is 10 to 15 shillings per 1,000 feet; and this amounts, where the timber is good, to £800 a square mile!" In this case, both the sagacity and enterprise of the Blue Noses are at fault, for the Yankees not only get the timber from the Provinces for a mere song, but they contrive to work it up as they did the wheat, and carry it in their own vessels, which are not half so good as the Provincial, nor sailed so cheaply, though done by English sailors, and away it goes to English ports; and somehow or other, the Yankees contrive to pocket all the money, and this too, while, during all the time, the taxes against the Mainers "are in the ratio of ten to one" of those paid by the more highly favored Brunswickers. It occurs to us at this point, that on one side of the St. Croix are the unmixed descendants of the whigs of the revolution, and on the other, the tories, self-expatriated by that event from New England. The one believed there could be "no church without a bishop, and no state without a king," the other discarded both; yet, state and church have survived and already occupy both shores of our continent.

There is another little incident mentioned by the author we were not before aware of. "The shipping in St. John, (New Brunswick,) is victualled with New-England beef. Droves of cattle from Massachusetts, make up the deficiency of supply." We have often seen large droves of cattle and sheep taken from Western New York to Upper Canada, but we had no idea that so lean an agricultural region as New England, so extensively engaged in manufactures as she is, could yet supply the exclusively and more highly favored agricultural region of the Provinces with their beef, enjoying, too, as they do, the honor and advantage of living under the English flag.

He occasionally tells a story of a discontented Canadian, who is well-to-do at home, leaving his "domestic hearth and with his family, roaming off to the States," and after exhausting his money and patience, returning to enjoy the quiet he had abandoned. We have known a great many similar instances, with this only difference, that the emigrants did not return. These pleasant little recitations, look amazingly as if the writer were employed to paint an agreeable picture to catch the eye of the Europern emigrant, who is bending his thoughts on America.

Such magnanimity as the following is decidedly refreshing. "We would even be content to give up all ordinary points of dispute with our American cousins, as a nurse does to a noisy child, without any fear that his after-crowing would in any degree weaken her authority where matters of moment were concerned." He quotes "Dr. Knox and other physiologists as asserting that the Anglo-Saxon race will, and does degenerate in North America."

The recent growth of Glasgow and Birmingham are instanced as a full set off against the rapid increase of all the leading cities and towns of the Union. "Our transatlantic cousins, proud and delighted with their increase, &c., make each other believe they stand alone not merely as a rapidly progressing, but as an inately energetic people. Ninety-nine out of every hundred of those who emigrate from the British Islands, know by personal observation, little or nothing of their native country, beyond the locality in which they have been brought up, and generally nothing more than the outside appearance of that." Some credit must be due to the institutions of a country that transfers such an ignorant population into enterprising and intelligent republicans, and suddenly make them such efficient upbuilders of the lofty pillars and constantly widening borders of this vast republic. "Even writers of travels have not been exempt from the same failing. Very few know their own country sufficiently well before they begin to compare it with others." And so, forsooth, they have innocently imagined this country was advancing somewhat. But we have come to our senses at last. One man has found out the right of this matter, and we may henceforth give up our idle conceits and be content to be next to nobody, or borrow what little importance is conceded to us by the continual flood of the foregoing described immigrants.

Such expressions as "the smallest possible degree of *additional* modesty(!) would not sit amiss even upon the New-Yorkers themselves," with the Italic and exclamation inclusive, do not look becoming when applied by a grave and respectable professor, to 3,000,000 of inhabitants, if the whole state is meant, and to over half a million if applied to our city alone. Nor is the remark justified even when he wishes to offset it by the vaunting editorial of a fellow countryman of his

own, who has long pandered to a depraved taste. He has come fairly down to the level of his subject, in the following choice morceau. "If anything I have said in the preceding pages might be likely to *rile* our transatlantic readers, I hope they will think we Britishers are abundantly paid by this set down of the (New-York) Herald."

We are chagrined to find in the pages of a man of Professor Johnston's respectability, a quotation from Fennimore Cooper, against the character and hospitality of the people of Connecticut—a character so utterly untrue, and so contemptibly derogatory, if it were not that no American except Fennimore Cooper could indite, and no tourist but an Englishman quote. We have known a good deal of this people, and we venture the assertion, that the history of the world has never shown a state so equably and so happily poised in its political, social, and religious organisations, nor possessing more enlightened and liberally-supported benevolent public institutions. Absolute, almost unlicensed freedom is allowed to all excepting the vicious and the vagrant; a free toleration of religion; education accessible, and even compelled upon all; and with habits of sobriety, industry, and economy inculcated on every member of the community, we believe she has fewer paupers and less convictions for crime, than any other equal population. She has sent her sons and daughters over the whole earth, carrying with them everywhere the germs of civilisation and progress. We remember looking over the origin of the members, then constituting our national legislature, some years since, and though entitled to only six or seven representatives of her own, yet Connecticut furnished about thirty who had been returned from the various states to which they had emigrated. Such had been the tendency and result of the early principles instilled into them. Most of our splendid packet ships and steamers have been commanded by Connecticut sailors, and a nobler set of fellows never strode a quarter deck, every one a Nelson, save in his vanity and vices. South street is full of them; the pulpits, the bar, the bench, the professional chairs of the country everywhere contain them, and yet they are indiscriminatingly maligned, and without the slightest provocation, too, by an intelligent traveller, under the cloak of an "*if*" and a "*Cooper*," yet he has the candor to acknowledge he discovered no signs of these imputed traits. Could it be that the "Maryland apple toddy for a winter drink," for which the learned professor has given us a full and minute receipt, or "the mint juleps of summer," were wanting at the hospitable board of his friend, that prevented "the stranger's chance of living according to his humor, as among these jovial Middle Statesmen, (of Maryland,) which the determined temperance-upholding people of the north-eastern states scarcely permit?"

We did not know before that it is common to judge of the capacity of our legislators and horses by their avoirdupois weight, but it seems so from the authority of our author.

We are treated to the author's ideas of New-Englanders in the following:—"I have already adverted to their tendency to hero worship in reference to the pilgrim fathers; and to their habit of investing these men with perfections, moral and intellectual, beyond their contemporaries, to which they have in reality no claim. Unfamiliar with the social condition of Europe in the times of the revolution, New-England writers assume that whatever superiority in mental freedom and foresight the first emigrants to North America exhibited, beyond the people at home, as *a whole*, was their own especial possession, and marked their individual superiority to those to whom they left behind. But they in reality brought with them only a few ideas, which, for nearly a century, had been fermenting in the leading minds of reforming Europe," &c. Yes, Mr. Johnston, this is just what the Pilgrim fathers did. They brought with them a few, that is, *every practical*, valuable idea that had *for a century been fermenting in the leading minds of Europe*, without the possibility of their giving it vent. Neither embodiment nor form, under any government then existing, could they give to their beautiful mental images, of "freedom to worship God." Nor could they establish equal and fair representative and responsible government; universal education; nor, finally, had they the unrestricted, inalienable privilege to establish and maintain just such social, educational, religious and political associations as they might deem most adequate to secure the greatest well being to themselves and their posterity for all time to come.

We do not claim for our New-England ancestors a distinct and original creation, as is asserted by professor Agassiz, for some of the races of mankind; nor so decided and abrupt an advancement, both physical and mental, as from a mite to a tadpole, from a tadpole to a monkey, from the monkey to an Ethiop, and thence to a Caucasian, as intimated by the author of "Vestiges of Creation;" though we are inclined to admit the quaint and rather boasting claim of old Cotton Mather, that "God sifted three kingdoms to procure the seed for planting one." What we insist on in our forefathers is, that they were, as a body, among the most enlightened, well-educated, moral and religious people of Old England, and that it was because they were far better than the mass of Englishmen, and those who controlled the government and the hierarchy of England, that they emigrated to this country. They left a land which might have been to them, a land of abundance and luxury, and sought an inhospitable wilderness for the sake of cultivating and enjoying political, religious and intellectual priviliges denied them at home. This fact, alone, would give a form and impress to their character and national organisations, that would last for ages, and which are maintained in all their pristine vigor at the present moment. The original band has since been steadily augmented by men of similar character from all nations, and especially by great numbers of intelligent Englishmen who are yet constantly resorting to our shores for a future home for themselves and their posterity; and it is most especially for this

cause, that other, and pensioned Englishmen visit this country, frequently for the express purpose of undervaluing and understating our true condition, and studying just how far they can distort the features, yet give a resemblance to the original of our body politic. We would be slow to impute such motives to Professor Johnston; yet, he seems to participate in some of these characteristics, by his frequently travelling out of his route, to pick up subjects to hang distorted views upon. How unlike the gifted, comprehensive minded Tupper, who has just left us with a soul full of thankfulness to Deity for allowing his vision to be greeted with the sight of a vast, yet newly-created people, in the enjoyment of every blessing vouchsafed to man, and who are more likely than any other on the globe, to transmit these glorious priviliges through countless generations to come.

One more quotation and we have done, for we have already quadrupled the space we intended to devote to this subject. The Hudson does not please this traveller better than our people or their manners. He says, "The first 30 miles reminds one, though on a larger scale, of sailing upon one of those Dutch or Belgian canals, along which, in former days, travellers moved in the *treckschuits*, hemmed in on either hand by elevated dykes. under pretence of seeing foreign countries." The Catskill and West Point please him better; but, "on the whole," he adds, "I was disappointed with the Hudson." And so are we with Professor James F. W. Johnston, M. A., F. R. S. S. L. & E., F. G. S., C. S., &c., &c., &c., and his "Notes on North America."

THE WORLD'S EXHIBITION.

THE "Palace of Glass" is open, where multitudes of visitors are daily witnessing the industrial productions, both ornamental and useful, of all nations. Now what use is this exhibition to the farmer? The advantages are too many to be easily described. The following are a few, as detailed in the London Agricultural Gazette, the good results of which are to be looked for by the British farmer, and a hint or two may be derived by the farmers of the United States:—

"It will be an important step in the extension and progress of civilisation, if the taste of the great mass of the humbler classes from our rural districts is quickened and beautified by beholding the graceful and grand structure itself, and the eloquent sculptures, superb ornaments, and creations of the arts which are emphatically 'fine,' which arrest and fascinate our gaze within it. It will be of service to us, if, when there a friendly feeling should go out to those of other nations who have contributed to deck the resplendent avenues with these things. It will be of incalculable service to agriculturists to compare by the aid of their own eyesight, not by the help of party journals, the mechanical resources of English farmers, with those of foreign cultivators; and from the unspeakable superiority [?] of the former, receive an inspiring hope and encourage to sustain them in competition with all the world. And, doubtless, many a farmer will this year find out some practice of distant counties, in our own land, or of other countries which may be of use to him at home; and many a one will see implements and instruments with which he was previously unacquainted, and which may comprise just the form or the motion for which he has been long seeking. And this opportunity is the greater, not only from the presence of foreign tools and machines, but also from the circumstance of the collection of those of Britain, embracing the inventions of a wider extent of country than any previous show in either England, Ireland, or Scotland. And many, also, will notice specimens of cereal produce, roots, seeds, and grasses, and of fibres, fleeces, skins, &c., which he may introduce with benefit into his own neighborhood.

"But leaving other means of advantage to be suggested by the reader's own reflection, let us proceed to notice, for the information of those who cannot witness them, some of the more worthy objects of the farmer's attention, to be found in the Glass House of Hyde Park—the great conservatory, where all the fruits of human industry have been nourished into ripeness. Entering, perhaps, into the great transept, where a strangely sylvan scene bursts upon the view—tropical trees shooting fan-like under the shade of English elms—with the high filmy arch over all, the farmer turns at once toward the department which the crimson cloths overhead proclaim 'agricultural;' and passing the rich carvings, and gorgeous adornments, the fountains, and colossal images, and the glitter of glass, gold, and fancy manufactures, threads his way between the slender pillars, till he is lost amidst the more familiar objects of farm machinery. But plows in a palace, carts, and chaff cutters in its crystal colonnades, are they not unsightly and out of taste? By no means; the implements of the field and barn are here tinted, polished, and burnished, so as to be worthy of a place beside the workmanship of fine art; and instead of the customary red, blue, black, and green paint, the colors vie with those of the nobleman's carriage, and the metal shines bright like silver, and some is even ornate with gold. No farmer dare purchase such at first, except for his drawing room; they are for ladies and princesses to admire. But when the outside gloss and brilliancy have worn off, it is certain that the utility of these machines will meet the expectations of the ingenuity which has framed them.

"On first entering this department, the eye is bewildered by a succession of steam-engine funnels, drilling machines, cutters, carts, plows, wheels, and ponderous engines, the nature of which, it requires a minute examination to understand. On each side of the main walk through this long department, are raised stands or galleries, erected by some of the principal machinests, crowded with implements and wheels, and one surmounted by an emblematic golden sheaf. On a cursory survey also appear spades, forks, &c., and many beautiful models of farmsteads and farm instruments."

Foreign Agricultural News.

By the steamer Niagara, we are in receipt of our foreign journals to the 7th of June.

Markets.—*Cotton* was selling steadily but with a downward tendency in the lower qualities. It was the same with *Provisions* and most other American products, except *Lard*, which has advanced from 1*s.* to 6*d.*

Flower Trade in St. Petersburgh.—A fair which is held as soon as the frosts are over, and which lasts a whole month, namely, from the 25th of May to the 25th of June, is almost exclusively a flower fair; it is at this fair that the nobility and country gentlemen make their purchases for decorating their country houses to which they are about to retreat. The flowers are supplied almost entirely from Germany. We remarked the hundred-leaved and four-seasons rose, planted in a sort of hamper; cherry, apple, plum, service, and sweet chestnut trees, a few pear trees, all shrubs, and selling for double what they do in Paris; the lilies of the valley, especially, seemed to bear a most exorbitant price.—*Gardeners' Chronicle.*

Hot Houses in the Time of the Romans.—In the memoir a short time since read to the French Academy upon the subject of Roman hot houses and pits, heated artificially, I omitted several quotations which proved my statements, and they have consequently been impugned. My first authority is Columella (xi., 3, 51, 53). Tiberius being in ill health, was advised to eat cucumbers every day. The Roman gardeners cultivated these vegetables in frames, containing hot dung, and exposed to the sun in front of a wall. The frames were, moreover, on wheels, so as to be easily moved into, and continually placed in the sun's rays, and were, in addition, furnished with pieces of talc, by which they were covered at night, and by which the plants were protected from frost and cold. "Thanks to this invention," says Columella, "Tiberius was supplied with cucumbers at nearly every season of the year." Martial, (viii., 14,) the contemporary of Domitian who had in his palace a hot house, containing exotic plants, called Adonea, describes a glass hot house, belonging to one of his patrons, which was set apart for similar plants as follows in one of his epigrams:—"As you are afraid that your pale fruit trees, natives of Cilicia, cannot withstand the winter, and that a too cold wind may nip your delicate shrubs, you take care that by panes of talc the chilly wintry blast may be kept off, and that nothing be admitted but sun and a genial air; and yet, I have nothing but a miserable lodging, with a window that does not fit, and where Boreas himself would not find a habitation. Is it thus, cruel man, that you lodge an old friend? I had much rather be the guest of your tree!" The use of some heating apparatus is here clearly referred to; but Seneca, (letter 122,) tells us that the Roman hot houses were heated by steam. He denounces the unbridled luxury of his contemporaries. "Do not those live contrary to nature who require roses in winter, and who, by the use of hot water, and application of heat, compel the lily to blossom in winter, instead of in the spring?" It is remarkable that the most direct evidence of the use of hot houses by the Romans should be furnished by a poet and a philosopher.—*Comptes Rendus.*

Decrease in the Cultivation of Flax in England.—England has never produced a sufficient quantity of flax for its own use, and the cultivation of it has decreased as agricultural improvements have advanced. It suits small farming and cottage farming, and hence the very general cultivation in Flanders and in Ireland, where the above mode of using land prevails. The preparation of the land is laborious, the treatment of the growing crop is troublesome, and the application of the produce is tedious and expensive, and any plant that needs premiums and the rewards of societies to support its use, may be suspected to want the intrinsic worth, under the soil and climate, and under the circumstances of the social system, which regulate the use and fix the value of every vendible commodity. The British cultivator will grow articles which suit his market most readily, and at the least cost, of the greater return.—*Ag. Gazette.*

Lime, or Pure Quick Lime.—This earth frequently enters into mixture with vegetable juices; it is found next to silica, most frequently in the ashes of plants, and consequently particular families and species of plants, and even the same plants according to their different periods of development, exhibit remarkable differences. The ash of several species of trees is very rich in carbonate of lime; the ash also, of many leguminous seeds is rich in this earth, while, on the contrary, the stalks of many of the cerealia, so abundant in silica, contain only a small proportion of lime. Plants of the same kind commonly contain less lime in their early growth, but a larger proportion of in their advanced stages. Many aquatic plants, several of the Myriophylla, Characeæ, and different Algæ, during their process of vegetation, deposit lime, even in crystalline grains, upon their inner or outer surfaces, although the water in which these plants develope themselves contains only a very little carbonate of lime, which is not deposited on other organic bodies.

It appears from all these circumstances to be highly probable, that on the perfect cultivation of various plants, lime acts favorably as a virtual means of nourishment; and on the contrary, to be injurious to others: accordingly we observe that Chrysanthemum segetum, Erica vulgaris, and various species of Carex, become more rare when clay lands are improved by lime and marl. Mixed with soil, lime has the property of preventing the formation of the free acids, which, in wet clay lands, easily result from the decomposition of organic matter, or other process of oxidation. It renders acids already present in the soil innoxious, provided they are not in too great an amount. Particles of humus, in an almost insoluble state, have become, through its agency soluble, and converted into a beneficial means of nourishment for plants. Heavy clay soils by its means are rendered lighter, lose their too great tenacity, and acquire the property of drying up more easily.—*Prof. Schubler.*

Editors' Table.

Excursion on Long Island.—A few days since, we visited Lakeland, on Long Island, and were highly gratified with the successful experiments in improving the wild lands in that neighborhood, and with the flourishing condition of all the crops on the route. In a future number, we shall recur to this subject again.

Lossing's Field Book of the Revolution.—Another number of this very interesting, and to all Americans, highly-entertaining work, has been issued by the enterprising publishers, which is fully equal to those of the preceding volume.

The Quadrupeds of North America; by Messrs. Audubon & Bachman. The tenth and eleventh numbers of this valuable description of American Fauna is before us. They fully equal, if they do not surpass any of the preceding numbers. They contain a lengthened description of the beaver, that most interesting of all the aquatic quadrupeds. They also treat of the badger, two species of marmots, and the Douglass squirrel, (about 20 distinct American species of these variegated lively little animals having been previously described,) the Canada otter, the swift fox, and the Texan skunk.

Harper's New-York & Erie Railroad Guide Book, containing a description of the scenery, rivers, towns, villages, and most important works on the road, with 136 engravings by Lossing & Barritt, from original sketches made expressly for this work, by Wm. MacLeod. If the above title had added what a simple act of justice demanded, that the literary portion of the work was also got up by Mr. Mac Leod, it would have been only a simple act of justice to the author. The public is really indebted to Mr. M. for much pleasing and useful information, historical, statistical and descriptive, all of which is handsomely illustrated by his original sketches.

Sand Paper and Emery Paper.—Every farmer uses more or less sand paper; it is consequently important to obtain it of the best quality. E. Blanchard & Co., of New York, have recently commenced manufacturing the "Excelsior Sand Paper," which we find far superior to any we have before tried. We have a large machine shop, where we employ over 100 men in the manufacture of plows and other agricultural implements; and our mechanics, after trying all the best kinds of sand paper, give the preference to the Excelsior. The process by which it is manufactured is entirely new; the sand is of a superior grit, is laid on even, and does not shell off as is common with other kinds, but it adheres firmly to the paper till gradually worn away.

The *emery paper*, manufactured by the same establishment, is equally superior.

A History of Greece, from the Earliest Times to the Destruction of Corinth, B. C., 146; mainly based upon that of Connope Thirwall, D. D., Bishop of St. David's. By Dr. Leonhard Schmitz. New York: Harpers, pp. 544; 12mo. Also, by the same publishers.

A History of Rome, from the Earliest Times to the Death of Commodus, A. D. 192. By Dr. Leonhard Schmitz; pp. 570, to which is appended a series of questions to the same, by John Robson. Notwithstanding the extraordinary efforts which have been made within the last half century in investigating the history of these two countries, their constitutions, laws, religion, literature, and social condition, Dr. Schmitz, the author of these volumes, has corrected many errors, or misconceptions, of other writers on these histories, and has presented the subject in a clearer light than has hitherto been done by any one previous. Both of these works are decidedly the best we have seen, and should be introduced into every private and public library, as well as into our colleges and schools.

The Book of the Farm, detailing the labor of the Steward, Plowman, Hedger, Cattleman, Shepherd, Field Worker, and Dairymaid. By Henry Stephens, with 450 illustrations, to which are added explanatory notes, remarks, &c., by John S. Skinner—2 vols.; C. M. Saxton, Agricultural Book Publisher, No. 152 Fulton street, New York. These volumes, containing more than 1,100 pages of matter of the highest utility to the farmer, are now offered to the American public. They detail the latest and best methods of English farming, as will be readily seen by the title; yet, as we get many of our most valuable agricultural improvements from that country, it is always safe, and frequently advantageous, to take their system for our guide in the United States. The instruction conveyed in this work is more ample and complete than any that has appeared since the voluminous and expensive publication of Loudon's Encyclopedia, being much more full and elaborate than Low's valuable work on the same subject, and bringing the improvements in the practice of agriculture, down to the present moment. Besides the ordinary wood cuts, we observe several highly-finished steel plates, illustrating plans of buildings, plows, machinery, cattle, &c., which add much to the value of these volumes. We trust this interesting and instructive work will have an extensive sale among American farmers.

Recognition of Voice Between the Ewe and the Lamb.—The acuteness of the sheep's ear surpasses all things in nature that I know of. A ewe will distinguish her own lamb's bleat among a thousand, all bleating at the same time. Besides, the distinguishment of voice is perfectly reciprocal between the ewe and the lamb, who, amid the deafening sound, run to meet one another. There are few things that have ever amused me more than a sheep-shearing, and then the sport continues the whole day. We put the flock into a fold, set out all the lambs to the hill, and then set out the ewes to them as they are shorn. The moment that a lamb hears its dam's voice, it rushes from the crowd to meet her; but, instead of finding the rough, well-clad comfortable mama which it left an hour, or a few hours ago, it meets a poor, naked, shrivelling, a most deplorable-looking creature. It wheels about, and uttering a loud, tremulous bleat of perfect despair, flies from the frightful vision. The mother's voice arrests its flight, it returns, flies, and returns again, generally for ten or a dozen times before the reconcilement is fairly made up.—*Lay Sermons, by the Ettrick Shepherd.*

Review of the Market.

PRICES CURRENT IN NEW YORK, JUNE 18, 1851.

ASHES, Pot,	℔ 100 lbs.	$5.00	@	$5.06
Pearl,	" do.	5.56	"	5.62
BALE ROPE,	" lb.	9	"	11
BARK, Quercitron,	" ton.	30.00	"	33.00
BEANS, White,	" bushel.	75	"	1.50
BEESWAX, American, Yellow,	" lb.	20	"	27
BOLT ROPE,	" "	11	"	12
BONES, Ground,	" bushel.	45	"	55
BRISTLES, American,	" lb.	25	"	65
BUTTER, Table,	" "	15	"	25
Shipping,	" "	9	"	15
CANDLES, Mould, Tallow,	" "	10	"	13
Sperm,	" "	25	"	50
Stearine,	" "	25	"	30
CHEESE,	" "	5	"	10
COAL, Anthracite,	2,000 lbs.	4.25	"	5.00
CORDAGE, American,	" lb.	11	"	13
COTTON,	" "	7	"	12
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,	" lb.	27	"	42
FLAX, American,	" "	8	"	9
FLOUR, Sour,	" bbl.	3.00	"	3.50
Ordinary,	" "	3.50	"	4.50
Fancy,	" "	4.50	"	5.00
Buckwheat,	" "	—	"	—
Rye,	" "	3.37	"	3.50
GRAIN—Wheat, Western,	" bushel.	95	"	1.15
Red and Mixed,	" "	75	"	95
Rye,	" "	73	"	75
Corn, Northern,	" "	58	"	65
Southern,	" "	58	"	60
Barley,	" "	75	"	80
Oats,	" "	43	"	48
GUANO, Peruvian,	2,000 lbs.	47.50	"	50.00
Patagonian,	" do.	—	"	40.00
HAY, in Bales,	" 100 lbs.	58	"	63
HEMP, Russia, Clean,	" ton.	225.00	"	230.00
American, Water-rotted,	" "	160.00	"	200.00
Dew-rotted,	" "	140.00	"	175.00
HIDES, Southern, Dry,	" "	9	"	10
HOPS,	" lb.	30	"	45
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	4.65	"	4.75
Pipes for Pumps, &c.,	" lb.	5	"	7
LARD,	" lb.	8	"	9½
MEAL, Corn,	" bbl.	3.00	"	3.37
MOLASSES, New-Orleans,	" gallon.	30	"	33
MUSTARD, American,	" lb.	7½	"	9
NAVAL STORES—Tar,	" bbl.	1.62	"	1.87
Pitch,	" "	1.25	"	1.75
Rosin,	" "	1.20	"	1.35
Turpentine,	" "	2.44	"	3.00
Spirits of Turpentine,	" gallon.	34	"	37
OIL, Linseed, American,	" "	71	"	72
Castor,	" "	95	"	1.00
Lard,	" "	75	"	80
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	75	"	1.50
Black-eyed,	" 2 "	1.75	"	2.00
PLASTER OF PARIS,	" ton.	2.50	"	3.25
Ground, in Barrels of 300 lbs.		1.12	"	1.25
PROVISIONS—Beef, Mess,	℔ bbl.	8.00	"	11.50
" Prime,	" "	4.00	"	6.50
" Smoked,	" lb.	6	"	12
" Rounds, in Pickle	"	4	"	6
Pork, Mess,	℔ bbl.	12.00	"	15.25
" Prime,	" "	9.00	"	13.50
Bacon Sides, Smoked,	" "	3	"	4½
" in Pickle,	" "	3	"	4
Hams, Smoked,	" "	5	"	9
" Pickled,	" "	4	"	7
Shoulders, Smoked,	" "	4	"	6
" Pickled,	" "	3	"	5
RICE,	" 100 lbs.	3.00	"	3.63
SALT,	" sack.	1.00	"	1.70
" Common,	" bushel.	20	"	35
SEEDS—Clover,	" lb.	7	"	9
Timothy,	" bushel.	2.00	"	4.00
Flax, Rough,	" "	1.60	"	1.70
SODA, Ash, (80 per cent. soda,)	" lb.	3	"	—
Sulphate Soda, Ground,	" "	1	"	—
SUGAR, New-Orleans,	" "	4	"	8
SUMACH, American,	" ton.	35.00	"	37.00
TALLOW,	" lb.	7	"	8
TOBACCO,	" "	5	"	15
Eastern, Seed-leaf,	" "	15	"	20
Florida Wrappers,	" "	15	"	60
WHISKEY, American,	" gallon.	23	"	25
WOOLS, Saxony,	" lb.	50	"	60
Merino,	" "	40	"	50
Grade Merino,	" "	30	"	40
Common,	" "	20	"	30

REMARKS.—Flour and Cotton have given way a little since our last; other articles remain at nearly the old prices.

The Weather continues cold for the season, and yet the crops generally, throughout the country, are looking well. There are partial complaints, which will always be the case in the United States, with its great breadth of territory and diversified climate.

TO CORRESPONDENTS.—Communications have been received from J. V. D. Wyckoff, S., John Robinson, G. L., S. R. Gray, A S. M., L. F. Allen, George Campbell, and W. S. King.

Madder Sets, or Seed Roots.—Can any of our readers inform us where these can be obtained?

ACKNOWLEDGEMENTS.—The Geological Report of the Copper Lands of Lake-Superior Land District, Michigan, from Hon. William Nelson, M. C.; Report of Commissioners concerning an Agricultural School in Massachusetts; Proceedings of the Associated Agricultural Convention, held at Boston, in March, 1850; Proceedings of the Clinton-County Agricultural Society, held at Plattsburgh, N. Y., and List of Premiums for 1851.